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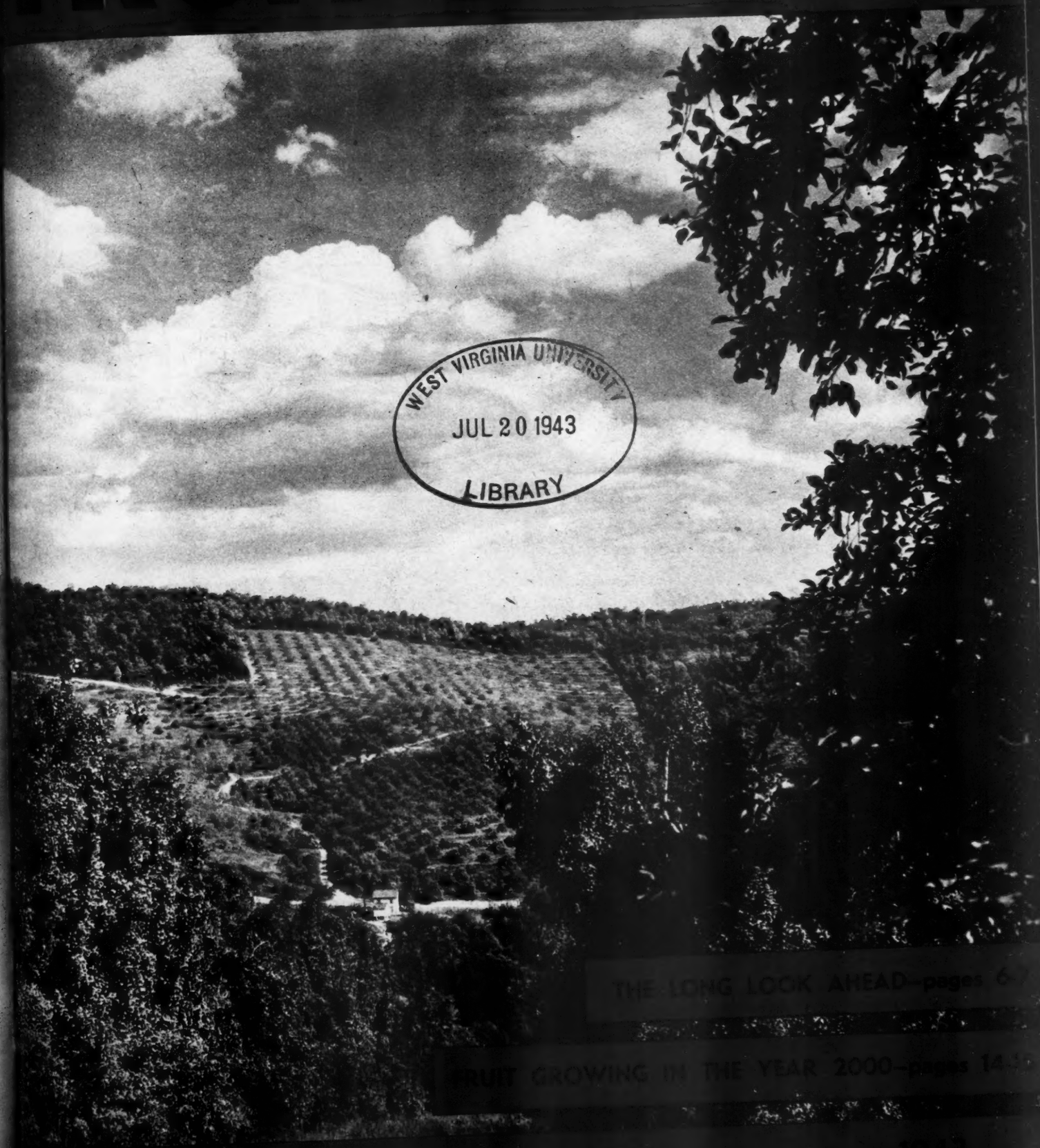
AMERICAN FRUIT GROWER



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THE LONG LOOK AHEAD—pages 6-7

FRUIT GROWING IN THE YEAR 2000—pages 14-15

JULY DIRECTORY ISSUE 1943

The TRACTOR TIRE OF TOMORROW
is here TODAY!
GOVERNMENT NOW RELEASING LIMITED AMOUNT OF SYNTHETIC RUBBER FOR TRACTOR TIRES
Millions of Farmers will be relieved to know that they will still be able to plow, cultivate and harvest on rubber. The long-recognized superiority of rubber tires over
BEST IN RUBBER
Synthetic or Natural

The Famous

Firestone GROUND GRIP TIRES

ARE NOW BEING BUILT WITH

AMERICAN-MADE SYNTHETIC RUBBER

IN 1932, Firestone put the farm on rubber by developing the first practical pneumatic tractor tire, the famous Firestone Ground Grip. Now, in 1943, Firestone makes another notable contribution to agricultural progress by pioneering again with a new Ground Grip Tractor Tire, built with American-made synthetic rubber!

This remarkable new tire has all of the exclusive construction features that have for years made Firestone Ground Grip Tires the first choice of farmers — triple-braced traction bars, up to 215 extra inches of traction bar length per tractor, automatic cleaning to assure continuous traction in all soil conditions, no traction leaks in the center of the tread where traction is needed most and weather-resisting Vitamic Rubber in both the tread and the cord body. And in addition to these time-proved advantages, you get the longer-lasting, weather-resisting, extra-strength qualities of American-made synthetic rubber.

This new Firestone Ground Grip Tire is today more than ever the product of American Agriculture. It is not only built in America, but *grown* in America — cotton from the South in the cord body, grain from the corn and wheat belts used to make alcohol from which butadiene, the most important ingredient of synthetic rubber, is made. In tractor tires, as in tires for your car and truck, you can always rely on Firestone, *Best in Rubber* — natural or synthetic.

FOR GREATER TRACTION, BETTER CLEANING AND LONGER LIFE HAVE YOUR WORN TRACTOR TIRES RETREADED WITH THE FAMOUS FIRESTONE GROUND GRIP TREAD DESIGN

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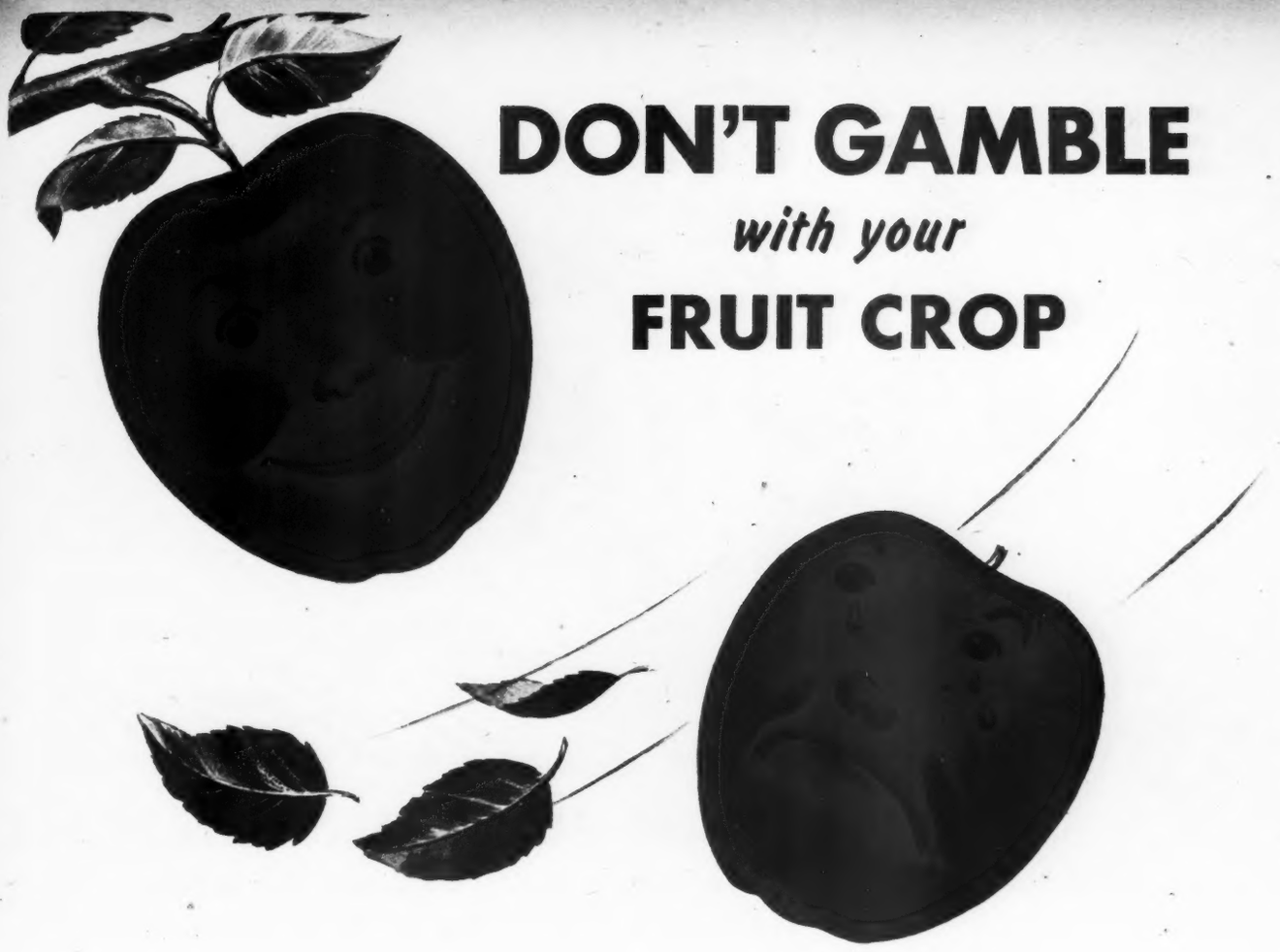

DON'T GAMBLE
with your
FRUIT CROP

Here's what "Parmone" can do for you:

1. **Reduces pre-harvest drop and cull losses.**
2. **Cuts down spot picking.**
3. **Increases color, quality, salable yield.**

In orchards where late frosts and bad weather have reduced yields, it's more important than ever to produce a maximum of top-grade fruit. "Parmone" will help you get it. Make full use of "Parmone's" many advantages. It eases labor problems—helps you get the best salable yield of pears and apples.

This year, "Parmone" is made in a more concentrated solution. One 4-ounce bottle contains as much active ingredient as a pint of the original product. Extensive comparative tests have proved "Parmone" concentrated equally effective in performance.

Order your supply of "Parmone" now! Buy only what you need—stocks are expected to be adequate. E. I. du Pont de Nemours & Co. (Inc.), Grasselli Chemicals Department, Wilmington, Delaware.

DU PONT
REG. U. S. PAT. OFF.

PARMONE
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Concentrated Hormone Spray

The Power Farmer Depends on Trained SERVICE

Mechanized War Depends on Trained SERVICE

Salute to the FARM EQUIPMENT DEALER!

He Wears No Medals, but He Made Agriculture Ready for Its Own Great Job

VICTORY on the battle front... Victory on the American farm.... Neither can be won without PREPAREDNESS. Both must be based on what the Army calls the *Service Forces.*

SERVICE backs the Army . . . and SERVICE backs the farmer.

Salute the Farm Equipment Dealers of the nation, the farmers' own loyal *Service Command!* Give a thought to that one spot in town—the implement dealer's store and service shop—to which the farmer looks for help when the nation calls for FOOD. Reflect for a minute on what the dealer and the farmer did together to be ready for this Spring.

They were facing the greatest battle in the history of farming. The new tractors and equipment they needed as never before were denied them, because steel was ordered off to war. So they fell to, in tens of thousands of communities, reviewed their millions of machines, repaired them, rebuilt them, readied them for action, *made them do.*

The Farm Equipment Dealers had little to offer but service, but before the winter was done they had made service a religion. They were sadly short of help, but somehow they found and trained men for the job. They knew every bolt and bar, every cylinder and gear in the machines they had sold. Long experience taught them many an emergency short cut. They scheduled the work of their customers ahead to fit the calendar and the crop. And when Nature was ready they had made Agriculture ready for its zero hour.

★ ★ ★

As your own harvest approaches in this vital year, think of your dealer and the job he has done. He is on duty now—ready to lead the way whenever you call on him for help.

And as fast as materials are made available to Harvester and its fellow manufacturers in this industry, your dealer will supply the new equipment you now must do without.

Raise *Food*—Buy *Bonds*—for VICTORY!

HE DEVOTES HIS LIFE TO BETTER FARMING

First, last, and always your dealer is a *shop* man with the facilities and the experience for the job. He knows what to do when the moldboard won't scour, when grain goes over with the straw, when the truck or tractor loses power.

Added to his skill and equipment is your dealer's big stock of parts, and the *know-how* that puts the parts to work. In these war days these are invaluable assets for every farmer..

Your dealer measures his job against the needs of his community. Right now rural scrap drives are his personal responsibility. He is in the forefront of this great collective effort.

He has organized training programs for women and boys to ease the farm-help shortage.

Victory Gardens are close to his heart and he does much to make them real community projects.

In these and *many* other ways your dealer does his part in the big fight for food and victory. He is a practical man, an *experienced* man, and a patriot!

INTERNATIONAL HARVESTER

★ ★ **Builders of Ordnance, Automotive and Food Production Equipment for the United Nations** ★ ★

AMERICAN FRUIT GROWER

E. G. K. MEISTER, *Publisher*

THE APPLE OUTLOOK

As Discussed at N. A. I. Meeting

By CARROLL R. MILLER

Washington, D. C.—The Annual Meeting of the National Apple Institute, June 18-19, Washington, D. C., attended by representatives from 21 of the principal apple producing states, developed these important indices:

The coming commercial apple crop will be about 75 per cent of last year's which points to 95½ million bushels as against 127½ million bushels last year. The same estimate made by this group in June, 1942, was for 124,800,000 bushels. The final crop was 127,655,000 bushels (U. S. D. A.), three per cent greater.

Nationally, Delicious are light. McIntosh are light all over New England and New York except in the western portion of the latter state. Other varieties vary, under the shorter crop.

The problem this year is not, "Where shall we sell our apples?" It is, "How shall we divide the crop to serve the Nation's pressing needs?"

There will be 50 per cent of last year's canned foods available for civilians and 67 per cent of fresh fruits and vegetables, according to W. C. Ockey, U.S.D.A.'s Civilian Supply Chief.

Cider will be a kind of liquid gold this year. Vinegar stocks are the lowest in years and manufacturers are rationing their customers. Apple concentrate "honey" is needed in the amount of 20 million pounds against three million pounds used last season by cigarette manufacturers and others. These industries use minute quantities per item and can pay big prices. Liquor manufacturers, with vanishing stocks and no available alcohol, want huge quantities of cider-concentrate for their purposes.

Government needs 30,000 tons of dried apples (requiring approximately 10 million bushels of fresh apples) and has requested 60 per cent of the canned sliced pack and 18 per cent of the sauce pack of the 1942 production. Military requirements likewise will call for huge quantities of fresh apples. More tin will be made available to apple processors than is allotted now, although the per cent of increase is yet unannounced.

Government must "hold the line" on prices. Growers have had big increases both in cost of labor (30 per cent) and packages (29 per cent). So have canners. Both must receive more money than last season to cover these increases. They cannot pay more without higher ceilings. Fruit sold to the Government is on a "cost plus" basis, not bound by ceilings. Apples are not now on the "cost of living" index. These two factors should help in increasing apple ceilings.

Not price but how to distribute available supplies among the Nation's needs is the No. 1 problem for growers this season. This is probably true for the first time in history. Will allocations help (governmental rationing of percentages to various channels), War Food Administration wants to know? Growers say, "Allocations are neither necessary nor desirable. Price will govern more satisfactorily."

Extension Division, U.S.D.A. and Labor Bureau, War Food Administration, with U. S. Employment Office, have worked out the division of jobs under the 26-million-dollar appropriation for agricultural labor. Extension Division handles intra-state labor recruiting and placement. The War Food Administration Labor Bureau handles inter-state recruitment and movement. Mexicans up to 50,000 for the West and Bahamans in lesser numbers for the East are being imported. Prisoners of war are available for orchard work within a radius of 50 miles from prisoner camps or sub-camps. Many new camps are being built but four to six months is required from start to completion of camps and the supplying of prisoners to orchard. State directors of Extension are the contact men for growers for prisoners. Migratory labor camps will be placed in order of need on application through the county agent and State Extension Division. Every local source of labor must be developed to the full. Labor is much shorter than last season. Securing harvest help will be a knottier problem. Labor supply for present seasonal operations is about adequate but no reservoir is in sight for the harvest labor.

Used containers are piling up on the hands of city dealers. Shortage of lids to go with these is a complicating factor. Manufacturers cannot make enough packages for all normal fruit and vegetable crops this season. But since these crops are short, the supply of new packages seems fairly adequate for early orders. Machinery and repairs will be available during 1944 in double this season's quantities, says the War Production Board, and procedure in buying has been streamlined.

Reuben G. Benz, Yakima, Washington, apple grower-handler, was elected President of the National Apple Institute for 1943-44, succeeding Paul Stark, Louisiana, Missouri, President for the past four years. Clarence E. Dutton, Milford Center, Ohio, was re-elected Treasurer. John Chandler, Sterling Junction, Massachusetts, was re-elected Secretary. Retiring President Paul Stark and Henry W. Miller, Jr., Paw Paw, West Virginia, were appointed Directors-at-Large.

An imposing array of Government officials attended the two-day session which was divided into four half-day discussion periods. One was on container supplies and equipment; another on price ceilings; on processing and transportation for 1943-44; and the labor problem and what can be done about it.

Among those present were: E. A. Meyer, Deputy Director, War Food Administration; John E. Dodds, William C. Crow, J. L. Pease, Carl Wooster, Fred A. Motz, Truman Nold, William C. Ockey, M. C. Wilson, H. S. Pringle, J. H. Heckman, all of various subdivisions of the U.S.D.A., War Food Administration and War Production Board.

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Panoramic view of a vast orchard in the Appalachian region. Photograph courtesy Appalachian Apples, Inc., Martinsburg, West Virginia.

THE LONG L

By J. H. GOURLEY

ANYONE who believes that the fruit industry is satisfactory and needs no readjustment now to meet conditions after the war will not be interested in "the long look ahead." To those who believe in the philosophy of "an unfinished world," and who look to change in the right direction as a wholesome symptom of progress, will, themselves, be constantly trying to look into the future and plan accordingly.

But this is not easy to do. The economic situation, the buying power of ourselves and other countries, the popularity of new fruit products introduced during the war, all will influence greatly the trend of things afterward.

It appears at present that the prices for fresh and processed fruits will be high during the war period. The usual reaction to such a period is expansion of acreage. In the past "wild-cat" planting usually has resulted with all the headaches that go with over-expansion, particularly unfavorable soils and sites. While we believe there always must be replacements and reasonable expansion, the past experience of reducing acreage to fit the industry to probable demands prompts a word of caution regarding indiscriminate planting.

"We predict" that the trend of progressive orchardists will be toward maintaining younger trees and following a rotation of planting so that the oldest ones come out with replacement to young trees of most popular varieties. Too much

emphasis has been given to "permanent" trees. They have often been *too* permanent.

Along with this concept goes one of smaller trees. If an understock could be found which would enable apple trees to attain about two-thirds the size of present standards, the orchardists of America would welcome it. Smaller, as well as younger, trees would mean easier and better control of insects and diseases, more economic handling of the orchard, probably more trees per acre, and hence lower cost of production.

Diversification of crops should be studied in planning the orchard of the future. Not everyone should diversify but frequently it means more profitable use of labor, a wider market outlook and more cash returns throughout the year. Diversification may be accomplished with other fruits, with certain vegetables, with bees, poultry, livestock, nurseries, according to the ingenuity of the individual and local opportunities which present themselves.

that is the utter hopelessness of anything but strictly high quality products. Anything except ripe, clean, disease-free fruits will spell failure for this promising new venture to which horticulture is committed.

A still better marketing system for fruits and vegetables must be devised. Tree ripened fruit of high quality and undamaged by handling must be placed in the hands of the consumer. Grower and merchandiser have been inclined to blame each other for the damaged condition of fruit. This gets nowhere with the consumer. He wants perfect fruit. This is going to be a bother, impossible some will say, but that is the goal of the future. The lower grades of fruit of which there always will be considerable must be processed at a profit. Laissez-faire methods will be relegated to the marginal producer who will have a poor show, as usual, in the ideal but practical orchard industry which we envisage for the future.

LOOK AHEAD

One of the most obvious possibilities of expansion or change is in fruit processing. Freezing of apples for the baker trade, and, perhaps, for general trade is likely to develop on a scale yet not dreamed. Fruit juices are undoubtedly here to stay and it is conceivable that this trade will be an outstanding development of the near future, putting to rout once and for all the synthetic drinks that now dominate the market. What will happen to evaporated and dehydrated apples in the post-war period is debatable, but that some new products will be devised which will be popular goes almost without saying.

One point is emphasized by all those who are giving thoughtful consideration to processed fruits, especially fruit juices and concentrates, and

Whether all fruits and vegetables can be advertised and handled as a unit remains to be seen. It would have much merit. Economy and efficiency of distribution are the ultimate objective and a pooling in some general overhead organization would no doubt serve the larger markets to advantage. New methods and facilities in transportation will do much to accomplish some of these objectives and anyone with imagination can foresee radical changes in this area.

Finally, let us not lose sight of the grower and his family. His interests are paramount. A good home with all modern conveniences which sets him and his family off as a cultured comfortable group is fully in the picture of the future. No one has a finer vocation, a more delectable product, or more desirable associates than the American fruit grower.

Twenty feet is the maximum size that apple trees are allowed to grow in the modern orchard. Such trees lend themselves to modern efficiency.

PRODUCTION LINE APPLE TREES

By A. D. NIRAM

IN THIS streamlined age the large spreading apple trees, which not uncommonly carried 30 to 40 bushels of fruit, have passed out of style. Representing a permanent investment by the fruit grower, these 70 and 80 year old monarchs of the orchard with their gnarled and bent trunks were the pride and joy of early fruit growers. But as many progressive growers already realize, there is no place now for this type of tree in the orchard. So slowly as to be unnoticed, a revolution in the art of growing fruit trees has taken place. No longer can the fruit grower point with pride to the grandest and oldest tree in his orchard.

For economy in production, for ease in growing, the smaller, younger tree—not more than 30 to 35 years old or more than 20 feet high—definitely has proved its superiority. Growers in the Okanogan Valley in the Pacific Northwest were among the first to realize that small vigorous trees are less affected by insects and diseases and, in addition, bear more highly-colored and more perfect fruit.

Twenty feet is the maximum size that apple trees are allowed to grow in the modern orchard. Trees are pruned carefully to keep within this size limit in order to gain advantages in pest control and in tree management. And when it becomes more and more difficult to keep the tree in bounds by branch pruning, root pruning by deep tilling down the rows is practiced to dwarf the tree and to hold it back. Smaller trees use less spray materials, are easier to cover thoroughly, are easier to pick, and are less likely to suffer damage from high winds. Severe pruning and cultural practices are necessary to produce this type of tree and are well worth the extra effort.

At the same time trees must not be allowed to grow over 30 to 35 years, depending on local conditions. The apple tree is no longer a lifelong friend which grows, lives and dies with the fruit grower. New blocks must be kept coming along, not to increase the size of the orchard, but to take the place of the 30 year olds which are slowing down in crop production, are less vigorous, and are easier victims for codling moth and other pests despite increased spray applications. Also, with the increased developments in new varieties, the alert grower continually must be bringing in the new sorts which have gained market preference. Continued reliance on the old trees will mean lowered profits.

Despite the clear cut advantages to be gained by smaller trees, many growers shy away at the extra work involved in keeping a tree small and close their eyes to small-tree benefits. At the Grand River Orchards, Geneva, Ohio, farsighted L. C. Dean, keeps his trees below 18 feet and allows a spread of only 20 feet. By keeping his trees small, he can plant at 29-foot intervals with 50 trees to the acre which yielded 450 bushels per acre last year. This record by a grower who refuses to be tied to the tradition of the large tree shows how to make the orchard pay profits.

For the present it will be necessary to prune trees to keep them small and manageable. But not far in the future, growers will have a far more efficient means to keep trees small with the added advantage of early bearing. Dwarf stocks are most certainly on the way. A look into the future sees vast orchards of these small trees planted five to 10 feet apart, picked and pruned from the ground, and sprayed with one blast from the spray gun. Pulling out old trees and planting new will take place every 15 to 20 years as the whole tempo of fruit growing is stepped up.

As Dr. H. B. Tukey, Chief in Research, New York State Experiment Station points out there is at the moment much interest in dwarf fruit trees. Commercial fruit growers are asking for trees, he says, slightly smaller than the standard which may be more easily sprayed, pruned, thinned, and harvested, to the end that a higher proportion of No. 1 fruit and lower cost of production may be secured—as Dr. Tukey calls it, a "controlled" tree.

To meet some of these problems, especially the problem of the dwarf tree and the controlled tree, rootstocks are now available which offer much promise. They are propagated not from seed, but by such vegetative means as root cuttings and layers, so that each individual plant of a given type is identical to each other plant

of that type.

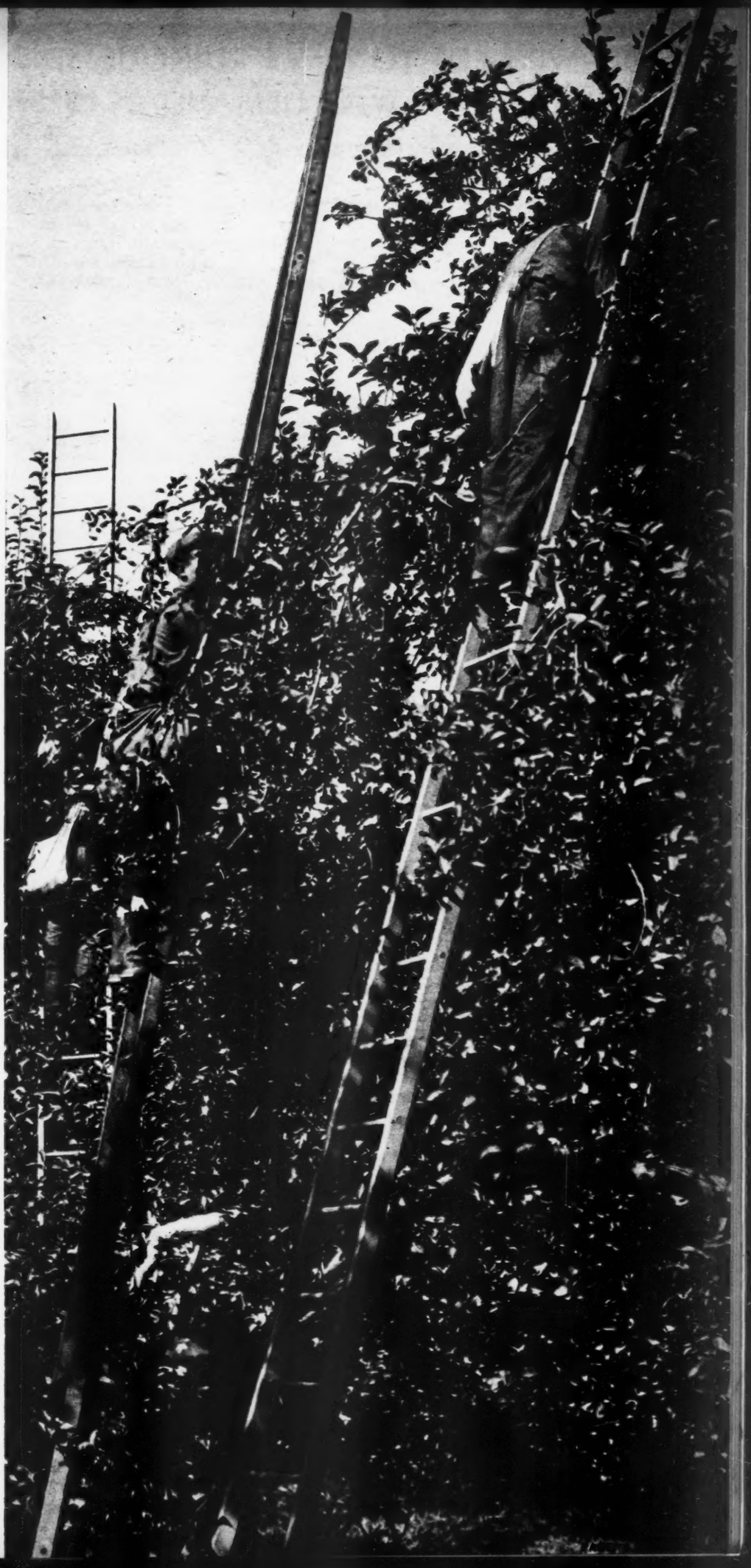
Most prominent among these rootstocks are the "Malling" rootstocks, so named because they have been standardized and developed by the East Malling Research Station in England. They comprise some 17 types or lines of apple rootstocks and several quince, cherry, plum, and pear types. Such rootstocks are called clones and are given type or varietal names as "Malling I," "Malling IX," and "Malling XVI." They are analagous in every respect to scion varieties, such as the McIntosh apple, the Bartlett pear, and the Montmorency cherry. When used as rootstocks for a scion variety, therefore, the resultant fruit tree is composed not only of a named scion variety but also of a named rootstock.

At present, Malling IX and Malling IV stand out as dwarfing stocks, the former a very dwarfing stock and the latter semi-dwarfing. Malling IV, which is most promising for commercial use today, produces a tree 12 to 15 feet high which bears two to four years earlier and can be planted as close as 20 feet apart. These stocks have far-reaching possibilities and wide-awake fruit growers already are planting test plots, correcting weaknesses and gaining experience which will give them a lead start on their competitors.

Credit for a revival of interest in these dwarfing stocks must be given to Dr. R. G. Hatton and his associates at the East Malling Research Station in England. He observed that the dwarfing stocks were badly mixed and that there were several types of plants masquerading under the name of "Doucin" and of "Paradise." These he separated into pure lines or clones. It is something as though all apple varieties had been jumbled together into the two classes "red apples" and "green apples," and then as though somebody had come along and separated the red apples and the green apples into varieties, separating out the McIntosh as McIntosh, the Northern Spy as Northern Spy, the Rhode Island Greening as Rhode Island Greening, and so on.

At all events, from various sources Dr. Hatton selected out 16 types of rootstocks for the apple, propagated them, and worked various varieties of apples upon them.

Just over the horizon, therefore, are great new developments in growing fruit which today are foreshadowed by the decline in usefulness of the giant, sprawling king of the apple trees, the grandest of them all but, sadly, the most uneconomical.



Right: Here is an example of the tall large tree on which spraying, harvesting and other operations are more difficult than they are on smaller trees.

DO WE NEED TO HAVE RUINOUS SURPLUSES WHEN WAR DEMAND CEASES?

By Porter R. Taylor

FRUIT and vegetable growers are much more concerned this season with problems of production than with those of marketing, due to the tremendous consumer buying power, the urgent demand for food for military and lend lease outlets, and smaller crops of several of the important fruits and vegetables. But while growers should make the most of the favorable market conditions which prevail in 1943, they must not assume that this unusual demand is likely to continue for long after hostilities cease and more normal conditions prevail.

The acreage of many of our annual vegetable crops has been greatly expanded to meet the increased requirements of the war effort. But as the size of this special outlet decreases, we are likely to find ourselves with a production substantially above the normal consumer demand for such products. Immediately, we will be faced with the problem of increasing demand for such products or of reducing acreage to a more normal level of production if price levels are to be maintained on any satisfactory basis.

In the case of the perennial fruits, natural conditions have resulted in crops of apricots, peaches, and prunes much below average at the same time that demand has been strengthened by increased buying power and by the need for fruit in both canned and dried form. Fortunately, during the past season it has been possible to market with reasonable satisfaction to producers, the largest crop of grapefruit that this country has ever produced as well as one of the most plentiful supplies of oranges. A pack of processed grapefruit in excess of that of any previous season and the special lend lease outlet for orange concentrate for use abroad explains a considerable portion of this favorable market situation.

But we must not forget that as recently as the fall of 1941 it was necessary for the Department of Agriculture to purchase over 10,000 carlots of apples in order to establish and maintain a price level of $1 per bushel for good quality apples at the time of harvest. And it was during that same season that peach prices dropped as low as 50 to 60 cents per bushel during the period of heavy supply.

These disagreeable facts from the past are mentioned at this time because it is entirely possible that such conditions may occur again when more normal conditions return. During the past few weeks despite the strong consumer purchasing power, surpluses have developed with serious price effect in the case of a number of important vegetables such as carrots, beans, peas, and spinach. Other similar situations are anticipated as the season progresses.

This condition is due to the fact that fresh fruits and vegetables are perishable products which must be sold within a varying period after harvest depending upon the commodity. In no case is the fresh produce satisfactorily held over for sale in competition with the crop of the following year, and it must be used during its normal marketing period.

The production of most of the more important fruits and vegetables is widely scattered in many different sections of the country where climatic and soil conditions are more favorable than in other districts. Good weather in one section may result in a very abundant production when the harvest from that area is on, while unfavorable weather in other districts may reduce the volume of the harvest to a fraction of the normal production.

Thus, for the country as a whole, the volume of a single perishable product offered in the markets may vary substantially from week to week, depending upon the aggregate supply from all producing districts. Periods of light supply may follow those of heavy supply, and vice versa, without the consuming public becoming aware of the change except as it may be reflected in the retail prices which prevail.

When the volume marketed increases to a considerable degree, a substantial decline in prices usually results. Under these conditions, net returns to growers drop rapidly and may reach a level which will not cover the cost of harvesting and marketing the crop. Then harvesting usually stops, the product being left in the field and wasted because it will not sell for enough to pay for marketing.

Some call this "the natural operation of the law of supply and demand." But rarely can the grower take such a philosophical viewpoint of the situation. For him it means the complete loss of seed, fertilizer, labor, and the many other production expenses. If the crop is harvested and sold at a loss, then harvesting, packing, transportation, and marketing costs also are lost in whole or in part. In either case he loses his own personal income from the anticipated profits.

Does such a state of affairs need to continue indefinitely or can something be done to correct it?

Price is the factor which serves as an economic balance between supply and demand. If supply increases without a corresponding expansion in demand, then prices go down. If the supply remains the same when demand increases, then prices should rise.

Therefore if supply is expected to increase during a specific period of time, why cannot demand be increased simultaneously during the same period so that prices need not be reduced? Is there some practical means by which additional consumer demand can be created to offset the price depressing effect of enlarged supplies of fruits and vegetables so that the producer may be protected from loss of income?

There has been sufficient experience with a variety of fruits and vegetables to indicate that properly planned promotion work can be timed to fit variation in supply from period to period. In this manner, consumption can be increased at the same time that the supply offered in the market is the largest. With such stimulation of use when the supply is plentiful, producer prices should be maintained at levels above those which would exist if no effort were made.

To carry out such a program it would be necessary to have estimates of supply made from time to time. These should become increasingly accurate as the season progresses. Such forecasts are usually made in the more important producing districts at present, but there is relatively little effort to coordinate the information from several different districts in order to determine the total supply which may accurately be expected to reach the market from time to time. The size of the total supply, as well as the places and times that heavy and light supplies may be anticipated is information of the greatest importance toward the successful marketing of the crop.

A second requirement for success would be to secure the close and willing cooperation of wholesale and retail distributors who would be expected to cooperate fully in expanding their sales efforts at times and places which need such special assistance. The degree of cooperation which has been developed with these groups in recent years should be further extended and improved to secure the maximum effectiveness possible in such effort. Special attention should be given to working out methods to secure the full cooperation of the thousands of independent retailers who should be made a vital factor in such a merchandising effort.

Third, a proper form of organization must be developed to carry out such a merchandising program. Previous efforts in promotion have been largely centered around a single commodity, frequently with the idea that

(Continued on page 13)

Farm Born—War Proved—
This May Be Your Tractor Tomorrow!

Another reason why B. F. Goodrich is "First in Rubber"

• In the knee-deep gumbo of Guadalcanal and over the tricky terrain of Tunisia, Uncle Sam's fighting forces are demonstrating the superior qualities of a new type of vehicle that can travel cross country at highway speeds, span ditches, climb steep banks, and plunge ahead under conditions that would defy an ordinary wheeled vehicle.

How? By means of an endless band rubber track that crawls over the ground much like a caterpillar, providing peak traction, full use of power, and easy maneuverability under all conditions.

Called "square tires" by some, this continuous band of rubber eliminates vibration, reduces noise, saves as much as 250 pounds of crude rubber per vehicle, and resists wear on roads and rocky ground.

Invented by B. F. Goodrich engineers for use on the farm, these endless rubber tracks were adopted by the Army for its scout cars, gun carriers, tank destroyers, and more than 50 other uses.

When the war is over, and these "square tires"—improved and perfected through their trials on the battlefield—are again available for peacetime use, they may make possible a new kind of farm tractor — lighter, lower in cost, more economical to operate, and capable of doing more work in less time.

Your tractor manufacturer is already giving careful consideration to this idea.

The endless band rubber track is another B. F. Goodrich "first". Conceived in peace, it is helping to win the war and, after the war is won, it will help make the peace that follows better for you.

Awards to 7 plants

SUCCESS WITH

FRUITONE

IN STOPPING PRE-HARVEST DROP

DEPENDS ON TIMING!

NOW WE CAN TELL YOU JUST WHEN TO APPLY

Observations over many years show that there is a definite length of time between full bloom and maturity for each variety of apple. To be effective, FRUITONE must be applied, whether spray or dust, before the date of maturity.

We have prepared a schedule giving the number of days for maturity for each variety based on the best opinion of competent observers. With this schedule to guide you, a thorough control of preharvest drop with FRUITONE can be obtained.

FRUITONE for spraying, packed in 12 lb. cases.

DUST FRUITONE, for dust application, packed in 50 lb. bags.

FRUITONE means a bigger crop, and costs 1 cent a bushel to apply. This is the cheapest way ever discovered for growing more apples.

American Chemical Paint Co.
Ambler, Penna.

Gentlemen: Please send me your maturity schedule at once. I have ——— apple trees, most of which are ——— years old.

I use {Spray / Dust}

Name .....

Address .....

City ..... State .....

APS

CONDUCTED IN THE INTERESTS OF THE AMERICAN POMOLOGICAL SOCIETY

CULTIVATED BLUEBERRIES

By Stanley Johnston
Michigan Experiment Station

THE American Pomological Society always has taken a great interest in the development and improvement of new fruits. While the blueberry cannot be classified strictly as a new fruit, due to the fact that it was present in abundance in the wild state when the first settlers came to this country, as a cultivated fruit it can be considered as comparatively new.

The improvement of the wild blueberry dates from about 1906 when the late Dr. F. V. Coville, of the U. S. Department of Agriculture, started investigations with this fruit to determine its soil requirements, and, through plant breeding and selection, to develop better varieties.

At about the same time Miss Elizabeth White of Whitesbog, New Jersey, was making selections of outstanding wild plants. These selections were used by Dr. Coville in his work of developing new varieties. One of Miss White's native selections, Rubel, is still one of the most important commercial varieties.

The work started by Dr. Coville now is being continued by Dr. George M. Darrow, specialist in small fruit culture with the United States Department of Agriculture, and his associates.

The cultivated blueberry industry has been founded on improved varieties of the northern highbush blueberry and at present is confined largely to the states of New Jersey, North Carolina and Michigan with smaller plantings in Massachusetts, New York and Washington. There are probably 2,500 acres of cultivated blueberries in the states mentioned with an annual production ranging between four and five million pints.

While the blueberry is found in many different parts of the country, it is very exacting in its soil and climatic requirements, and the prospective grower should be certain that these conditions are suitable before engaging in blueberry culture. A very acid soil is essential, preferably one having a pH between four and five. A somewhat moist soil is best, but extremes in soil moisture content are injurious to best growth. The cultivation required by the blueberry is much like that given other small fruits.

The blueberry is a very popular fruit for fresh use, canning or freezing. It can be used in many appetizing and attractive ways and is especially famous as the basic material for pies and muffins. The demand for the cultivated blueberry has been good and will probably expand.

There is a fascination about growing an attractive new fruit like the cultivated blueberry. No doubt many will attempt to grow cultivated blueberries who do not have the proper conditions available. It is important to note that blueberry culture, due to soil and climatic requirements, is a highly specialized type of fruit growing in the light of present knowledge. Prospective growers, especially those considering going into the business on a commercial scale, should consult their experiment stations, or successful commercial blueberry growers, for advice.

SURPLUSES—

(Continued from page 10)

such a product was highly competitive with all other fruits and vegetables. Actually this is not the case as consumers want and need variety in their diet. Good promotion will encourage the use of those products which are in most abundant supply at a particular time, shifting the public attention from time to time as the need changes.

This is especially true if we accept dealer service work as one of the most effective methods of increasing consumption by improving retail merchandising practices. While experience has shown the efficiency of such dealer service in broadening markets and increasing demand, it has also shown that there are few single commodities which are sold in sufficient volume per store to justify the expense of such promotional work. However, it is obvious that while such dealer service work might be too expensive based on the sales volume of a single product, it could be economical when carried on in the interest of several, if not all, fruits and vegetables. Strengthening of the market for any single product which otherwise would be in weak position will do much to improve the condition of all of the rest of the producer items.

Several commodities with short marketing seasons can secure much greater efficiency if they join in a common promotional program rather than to attempt to build up a separate effort either for each product or on a regional basis which may function for only a few weeks at the most. Efficient operating organizations can hardly be expected to be developed except as there can be a much longer period of operations as might readily be secured through consolidations of several products marketed in succession.

While no one can accurately forecast the end of the war, especially in Europe, it is entirely possible that hostilities may cease before the present crops may be actually consumed. Certainly we all hope that peace will be at least partially restored before the 1944 crop is marketed. For this reason growers and others interested in this question should give prompt consideration to the possibilities of a joint promotional effort along the lines indicated, before the need for action becomes so acute that improperly considered steps are taken to meet temporary situations which should have been recognized as part of a much broader problem.

CHANGE OF ADDRESS

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AMERICAN FRUIT GROWER
1370 Ontario Street Cleveland 13, Ohio

First Again! — FRUITONE was the FIRST Pre-Harvest drop spray...

Now DUST FRUITONE IS THE FIRST HORMONE DUST FOR STOPPING PRE-HARVEST DROP

If you have a duster available, or prefer dusting, you can now get the same protection against premature drop with DUST FRUITONE as is possible with Spray FRUITONE.

The effectiveness of DUST FRUITONE was demonstrated last year by the results obtained by many growers in New York, New England and Pennsylvania.

COSTS LITTLE TO USE

When you consider that it costs only 10c to 20c per tree (about 1c per bushel of apples) to dust with DUST FRUITONE, depending upon the size of the tree, you can see how wise it would be to include this application in your schedule.

DUST FRUITONE is packed in 50 lb. bags.

Write for prices.

Both Spray and DUST FRUITONE are distributed by

CALIFORNIA SPRAY-CHEMICAL CORP.

Richmond, N. J.

FRUIT GROWING IN THE YEAR 2000

AS TOLD BY A FRUIT PRODUCER OF THE FUTURE TO DEAN HALLIDAY

This, as readers will perceive, is a hot-weather fantasy of possible fruit growing operations in the far, far future. In reading it, today's fruit growers may find it will take their minds off their present problems, providing of course, they do not take this yarn too seriously. As they say, in motion pictures, any resemblance to persons now living or dead is purely co-incidental.—Editors

MY MANY friends do me the honor of acclaiming me as one of the country's outstanding successful fruit producers. I accept this recognition with due modesty for in this year 2000 I feel that my success—and that of many others—is due not alone to personal ability and management but in greater part to the many mechanical and scientific devices we depend upon for almost automatic fruit production.

I, like many others, call myself a fruit producer. As a young man I was an apple grower, one of tens of thousands of other apple growers. In that day, only some fifty to sixty years ago, we struggled to maintain a working partnership with Nature and to grow fruit on what we then thought was a scientific basis. Some seasons Nature proved to be a real friend and partner and we produced bountiful crops of fine quality but generally speaking we were not really partners of Nature, only her vassals, and there were many seasons, too, too many, when we were at her mercy and crops were scanty and of poor quality despite all our work and efforts.

Today we are masters of Nature and no longer the victims of her whims or caprices, thanks to the development and use of chemical, electrical and atomic apparatus which as I said, makes fruit growing almost automatic. Today I can hold my grandchildren spellbound by telling them how in my youth we feared and fought the codling moth. They laugh incredulously at my tales for they know that today the mere pressing of a button in our control station prevents codling moth throughout our entire orchards despite Nature's inherent desire to breed and produce them. Our fear of killing frosts in those days, and our helplessness to do much about it, also amuses my grandchildren, who know that today there are sets of buttons in our Control Station the pushing of which give our orchards the scientifically exact amounts of frost, or frost-cold, to maintain Nature's rhythm or growing balance but without the least danger of injury to trees, fruit buds, foliage or fruits since at all times we have complete control of heat and cold, sunshine and moisture throughout our orchards.

I am 82 years old in this year 2000, yet I operate a production line orchard comprising 1400 acres aided only by a small staff of fruit engineers. The farm hand as we once knew him even as late as the great World War is, of course, a relic of the past. The tremendous technological developments which sprang from the ashes of that world holocaust taught us, and very quickly, too, that scientific engineering only could master and control Nature in her varying moods, and not the puny efforts of muscle and brawn. My two sons devote all their time to marketing and distribution.

As I supervise and control the output of our orchards, my sons, as I said, devote all their time to marketing and distribution. This is a necessary and logical division of our efforts. Our fruit production in this year 2000 is, as I have said, almost automatic, similar in this respect to other agricultural products, as well as the country's vast industrial production. The personal element and human relations, however, still enter into the distribution and marketing procedures.

Even though my sons may be away days at a time on marketing and distribution business in the leisure of the evening we may talk and visit together as a family group by telephoto connections. During the day, of course, we use this miracle development to conduct necessary business affairs.

Even in this year 2000 we still ship by truck and rail, but a great part of our fruit production, of course, is air borne by huge air freight transports. For this purpose landing and take-off runways radiate from our storage, packing and processing plants adjacent to our orchards.

I should explain, that to fit marketing seasons we produce ("grow" has long been an antiquated term) apples, peaches, pears, plums and cherries.

We are able to accomplish this varied fruit production almost automatically not so much because of our soil and climatic environment but with the scientific devices, with

which our Unit is equipped, devices which as I mentioned before give us control in our orchards of heat and cold, sunshine and moisture, pruning, fertilization, ripening and harvesting almost without the touch of human hands except in the Control Station itself.

The Control Station is the heart of our orchards. I shall not attempt to describe our Control Station in detail. Instead imagine an automatic telephone exchange as you, perhaps, knew it in the days of the great World War. Our Control Station is much more complicated in purpose, yet much more simple of operation than the automatic telephone exchange of those early days.

The apparatus and scientific devices housed and operated from within our Control Station employ and utilize principles of electrical and atomic engineering and co-ordinated chemistry. Many of these principles and their uses in fruit production are developments of comparatively recent years, especially those having to do with the use of electronics. Although the science of these devices is so complicated it would take volumes to explain them, their day by day operation is a simple push-button procedure.

Radiating from our Control Station and extending throughout our orchards is an underground system of electrical conduits and cables and electronic transmitting units. It would overwhelm you if I attempted to describe this underground system in detail. Since (although it is many, many years ago), I can still remember my surprise at the underground maze of pipes, conduits and cables then existing under the surface life of New York City when I first saw them through the opening of a street excavation, I can now only ask you to visualize a somewhat similar system under our orchards in this year 2000.

Much of our scientific fruit production of today is based upon our underground control and culture of the tree, its growth, foliage, fruit buds and the fruit itself. Many of the electronic principles involved are a development of those first employed in Radar, that astounding device of the World War which resulted in the first really effective under-sea control of the submarine.

Underground in our orchards we now fertilize by means of short wave impulses which create the proper fertilizers from latent salts and elements in the soil. We control tree growth and its health, as well as many diseases and insect pests, by the use of underground electrical impulses and the vibrations they set up. Believe it or not, we prune our trees from underground by means, again, of short waves or electrical impulses which stimulate or curb or eliminate entirely, as we desire, the branch and twig life of the tree.

Of course we also use, as do some of our neighbors, specially designed helicopter plans for inspecting and for certain spraying operations in our orchards. The helicopters permit us to sail slowly over the orchards and to descend and hover beside a certain tree much as a humming bird hovers in the air beside a flower.

Thinning and fruit setting is brought about at the proper time by employing underground as well as above ground short wave impulses in combination with our use of helicopters for certain hand operations.

Our Control Station has sending devices which can direct the proper waves of vibration throughout an entire orchard or any particular part of it as the case may be merely by pressing certain control buttons. Naturally we utilize these same electrical radiations for the operation, completely scientific as well as automatic, of meters and recording devices which keep before us minute by minute and hour by hour, the horticultural condition, in all its phases, of our fruit trees. Any unbalance of tree growth or fruit development is instantly detected and as quickly remedied without our fruit engineers leaving the Control Station.

We hasten or retard fruit maturity and ripening by means of our control devices to meet foods needs or emergencies in this country or in other parts of the world. We think nothing of receiving instructions calling for certain fruits to be ripened and picked to meet definite standards of sugars and vitamin content to help in meeting nutritional needs.

Well do I remember the furore created in the then fruit growing industry by the introduction of an invention which made is possible for the first time to hold a rod—by hand, of course—alongside of unpicked fruit and read a meter which had the designations "green," "ripe," and "over-ripe."

The scientific explanation of the apparatus was then considered complex, but basically it operated on a principle which we have developed to a very high degree of usefulness in this year 2000. The principle is that the rhythm of solid, hard, green fruit is different from that of the semi-liquid, softer and ripe kind. Vibrations passing through produce different results, a principle which we use for many purposes of fruit production today.

In those early days a blunt rod, caused to vibrate rapidly by electromagnetic means, was thrust against the fruit. A similar rod was placed on the other side of the fruit to pick up the vibrations. If the fruit is soft and over-ripe the vibrations naturally are toned down, whereas, if the fruit is hard and green, the vibrations would register on the second rod with greater clarity.

As the vibrations pass through the fruit, they are retranslated into terms of electrical oscillations. These, in those days, worked a meter and a pointer which designated the degree of ripeness of the fruit. Today, we accomplish the same thing automatically by means of a short wave device which sets up the vibrations, tree by tree, and meters which flash the results in varying degrees.

Picking of fruit, that bane of growers 50 and 60 years ago, has, today, become semi-automatic. I, myself, take credit for contributing to the development of a picking machine which is now successfully employed in the harvesting of the softer fruits. This machine which is directed through the orchard rows by remote control utilizes the photo-electric cell principle for picking purposes. Soft, synthetic rubber snouts, I can only think of the working end of an elephant's trunk, gently detach the fruit after being guided into picking position by the fruit's make-break reaction on a photo-electric operational device.

Conveyor belt systems often are employed for the picking of the harder fruits, such as apples and pears. Again by remote control through radio wave guidance soft, rubber mesh belts are directed through the tree rows whereupon electrical waves detach the fruit and it falls softly upon the conveyor belt which in turn quickly transports it to a master conveyor belt directly connected with our storage, packing or processing plants. In our own orchard, however, we also make special use of our helicopter planes at picking time because of their ability to hover, around and around a tree to facilitate the picking of certain varieties under certain conditions.

As I said in the beginning I am 82 years old, yet with a small force I direct semi-automatic operations of a 1400 acre orchard with crop productions which you would not believe if I gave you the figures. Not only do we grow large crops of fine quality fruits, especially apples, but we are able to control flavor and thus to produce flavors in certain varieties which harmonize in a most appetizing manner with other foods. This control of flavor enables us in our marketing operations to encourage the sales and use of fruit in connection with many other articles of food thus not only sustaining but ever enlarging the demand for fruit. Sometimes our fruit engineering experts tell me that it will not be long before we will be producing apples without trees and berries without bushes.

Looking ahead, as I am, from the year 2000, I am inclined to believe that.

Joe, in Africa, will love it!

The picture Mother takes may not be a masterpiece. But Joe, over in Africa, will *love* it.

Like a lot of other things that seem so small and mean so much. You know how it is yourself . . . a postcard from a friend . . . a funny rhyme clipped from the paper for a sick neighbor—it's such little things that count up.

Little kindnesses, little common, every day happenings we hardly think about. Little things? Sure, but taken all together they add up to *morale*—a very *big* thing in *any* man's life!

★ ★ ★

One of the little things many Americans enjoy is the right to a cool and relaxing glass of beer when the day's work is done. It doesn't have to be beer—it can be lemonade or buttermilk.

A glass of beer—a small thing, surely—not of crucial importance to any of us. And yet—morale *is* a lot of little things like this. Little things that help to lift the spirit, keep up the courage, make us more tolerant and understanding of one another. Little things that are part and parcel of our own American way of life.

And, after all, aren't they among the things we fight for?

BREWING INDUSTRY FOUNDATION

MORALE IS A LOT OF LITTLE THINGS

"MODERN FRUIT PRODUCTION" An accurate textbook on orcharding and fruit culture by Dr. J. H. Gourley and Freeman S. Howlett. Price $4.50 AMERICAN FRUIT GROWER 1370 Ontario St. Cleveland, Ohio

NUT GROWERS NEWS

CARPATHIAN ENGLISH WALNUTS

DURING the years 1936-40 the Wisconsin State Horticultural Society distributed several hundred pounds of Carpathian English walnut seed throughout the northern states. Seeds were obtained through the Rev. P. C. Crath, Toronto, directly from the Carpathian Mountains of the Ukraine.

During the intervening years there was an opportunity to watch the growth of this strain in many sections of the country and under various conditions. Now, it is our opinion that these trees are not much hardier than the so-called hardy peach trees. In areas where the temperature drops low enough to kill back the new growth of peach trees, it will do the same to the English walnuts. In climate such as exists in Wisconsin, the catkin buds on the English walnut winterkill.

The writer has the largest tree in Wisconsin in his back yard in the city of Madison. It is about 12 years old and has made an excellent growth, being approximately 20 feet tall. During one winter, 1935-36, the new growth was killed back. However, the tree is in a protected place, on the south side of the house, and in such locations peach trees likewise can be grown in Madison.

While the tree has had numerous pistillate flowers for the past five years, it never has produced a single catkin. Several successive crops have been grown on this tree, but only by pollinating the flowers by hand with black walnut pollen. The quality of the nuts has been equal to any which we ever purchased on the market. Crossing the black walnut pollen did not affect the appearance of the nuts or the quality of the meats, but the nuts, if planted, would produce hybrid trees.

Farther north in Wisconsin where temperatures drop to 30 degrees below zero, winterkilling has been severe. Several years ago large plantings of trees were persistently killed to the ground by winter cold. Of course, a large number of trees were planted in areas where temperatures are favorable and many growers are well satisfied as their trees are doing well. Since the trees all are relatively young, no great quantity of nuts has been produced.

These trees produce nuts at about the same age as apple trees produce fruits.—H. J. RAHMLOW, Sec'y, Wisconsin State Horticultural Society, Madison, Wisconsin.

—with the aid of CLETRAC

THIS FREE BOOK

Helps You Get More Production From Your Present Equipment

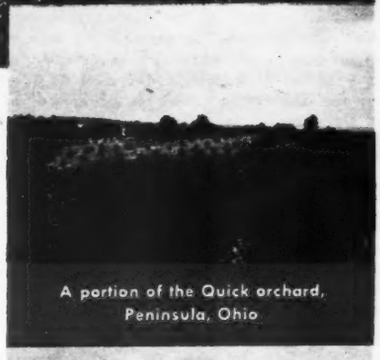
● To help you raise more food by getting the most out of your farm equipment we have prepared a book *"Wartime Farm Production."* This book gives definite suggestions you can use with the equipment you now have. Send for your copy today. Learn how to produce more food with less manpower—the big job of all farmers. Food is vital to winning the war.

IVAN QUICK, of Peninsula, Ohio, is an orchardist with 200 acres of fruit who delights in a battle royal with nature. The year 1942 was exactly a year for such a battle—what with early bloom, the danger of early frost and 10.5 inches of rain against 5.17 the previous year—a fine situation for scab. But Mr. Quick is also prepared for battles; else he could never produce 99.64% clean fruit.

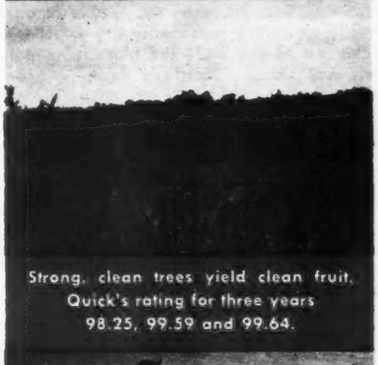
One of his weapons is a Cletrac Crawler Tractor that makes possible *spraying on time.* With its sure-footed tracks and ready mobility a Cletrac can get orchard operations going early in the season and *keep* them going in spite of soil and weather conditions. When growth is rapid, spray must be frequent. For scab, Mr. Quick sprays as often as seven times. This demands a tractor that will not bog down when hauling a heavy spray rig through low or wet spots, nor in crossing ditches. Cletrac traction and Cletrac power get through.

During his 20 years of orcharding, Mr. Quick has insisted that his tools of battle be kept in good working condition. His Cletrac is no exception, since it is regularly inspected, serviced and oiled. Result—economical operation, long life and a paying investment—that's Cletrac.

THE CLEVELAND TRACTOR COMPANY
CLEVELAND, OHIO



A portion of the Quick orchard, Peninsula, Ohio



Strong, clean trees yield clean fruit. Quick's rating for three years 98.25, 99.59 and 99.64.

Handsome fruit finds ready sale at Quick Fruit Stand.

RIDE WITH POWER STEERING

Cletracs steer with power on both tracks at all times through Cletrac's exclusive controlled differential steering. You never fight a steering wheel with a Cletrac crawler and you do not have to remember to steer differently coming downhill.

Cletrac Crawler Tractors

GASOLINE OR DIESEL

STATE NEWS

MASSACHUSETTS—The mid-summer fruit growers' meeting, sponsored by the Nashoba Fruit Producers' Association in cooperation with Massachusetts Fruit Growers' Association, New York and New England Apple Institute, and Massachusetts State College, was held June 11 at John Chandler's Meadowbrook Orchards, Sterling Junction.

Mr. Chandler, Executive Secretary of the N.A.I., discussed the present situation regarding the formulation of apple price ceilings by OPA. He stated that the Institute's prestige in Washington, D. C., is a tremendously important factor at the present time in that its policies backed by fruit growers everywhere significantly influence government action.

The approximate 150 growers attending the meeting were asked to estimate the 1943 crop. Mr. Walter E. Piper, Massachusetts Department of Agriculture, passed each grower a card on which to record the actual 1942 crop and the estimated 1943 crop. With about 25 per cent of the State's crop represented, the compilation showed the following conclusions: a decrease of seven per cent this year for McIntosh; a decrease of 40 per cent for Baldwin; an increase of 27 per cent for Delicious; and with a total of 689,000 bushels as compared with the 786,000 bushels of last year.—LAWRENCE SOUTHWICK, Massachusetts State College, Amherst.

INDIANA—Excessive rains have reduced fruit production in this State for 1943. The commercial strawberry growers describe their 1943 crop as "a half crop." The Indiana peach crop is estimated at approximately one-fourth of a crop.

In southern Indiana the apple orchards blossomed during reasonably dry weather but in the rest of the State the blossoming period was very rainy. Northern Indiana growers are reporting the lightest crop in years. Stayman, Turley and Delicious have set the lightest crops. Best prospects are reported on Golden Delicious, Jonathan, Grimes, and mature Rome trees. Young Rome trees, including Gallia Beauty, have set light crop.

Most growers characterize their early apple crop as "good." Movement of Transparent is expected to begin on about July 2.—MONROE McCOWN, Sec'y, Lafayette.

Fred Beckman's Son

● W. P. FLINT ●

PROFESSOR Wesley P. Flint, 60, Chief Entomologist of the Illinois State Natural History Survey and of the University of Illinois College of Agriculture, died suddenly from heart attack in his office in the Natural Resources Building, Urbana, Illinois, about eight o'clock on the morning of June 3.

Professor Flint was born at South Hampton, New Hampshire, and was graduated from the University of New Hampshire in 1906. He was the oldest staff member of the Illinois State Natural History Survey in point of service.

He joined the staff of the State Entomologist's office, which was incorporated into the Illinois State Natural History Survey, in 1907 and since December 1, 1930, he has been Chief Entomologist of the Experiment Station, University of Illinois College of Agriculture.

Internationally known in the fields of science and entomology, Professor Flint was identified with some of the most outstanding developments in the modern annals of these fields.

Dean H. P. Rusk, of the Illinois College of Agriculture, says, "Professor Flint's contribution to midwest agriculture has been outstanding. He had an unusual ability to put scientific information into terms that the public could understand and use. His advice on entomological problem was consistently sought and no man on the campus enjoyed a larger measure of public confidence than he."

TENNESSEE—Old men and boys made up the picking crews we saw during last year's fruit harvest season and again the ranks of these groups are being thinned out each week this year.

Since owners are liable for injury to their help, extra precautions are being taken. An instance of this was manifested last year when D. O. Hedges, father of D. E. Hedges, President of the Tennessee Horticultural Society, looked to his own safety when he devised a safe-picking ladder for himself. Although the elder Mr. Hedges is passed four score years of age, he helps daily the year around in pruning, spraying and harvesting operations in Signal Mountain orchards. This in spite of the fact that there is hardly a level spot in the orchard level enough for a step ladder.

Another innovation in picking fruit is shown in the photograph, lower left. For gathering some of the beautiful but elusive apples on the high outer limbs of trees in Fred Beckman's Lawrence County orchard, his sons contrived this wheeled ladder. Although not recommended for older helpers, these boys found they could make short shifts with a picker aloft.—A. N. PRATT, State Horticulturist, Nashville.

MINNESOTA—The War Production Board has granted permission to use the following sizes for pint and quart Hallock style berry boxes which are used most commonly in this region.

24 pint — 4⅞ x 14⅞ x 20
24 quart—8⅜ x 14⅞ x 20
16 quart—8⅜ x 10 x 20

This WPB action, which complies with the request made by The Minnesota Fruit Growers Association on March 27, will be greatly appreciated by the berry industry of this State and of adjoining areas where the Hallock style containers are used.

CONNECTICUT—During recent weeks winter injury has been more noticeable on older Baldwin trees, especially those that produced heavy apple crops in 1942. Some of these trees were weakened by the winter injury of 1934 and the hurricane of 1938. The winter injury of older peach trees has proved more serious than surmised early in the season.

Excessive rains during May made weather conditions favorable for apple scab development, and fruit growers in the State have found it extremely difficult to keep new foliage and fruit protected with sulfur because of the frequent rains.

For the first time many fruit growers have stocked a considerable supply of used apple boxes as a means of solving their box problem. A few growers have been able to obtain new box shooks and expect to have these nailed on the farm during rainy days this summer. Nevertheless, the apple box shortage still is critical in Connecticut.—H. A. ROLLINS, Extension Fruit Specialist, Storrs.

SOUTH DAKOTA—Henry Biel, Jr., fruit grower of Lefor, N. Dak., writes, "This has been one of the hardest winters we've ever had and some of the less hardy trees winter-killed quite badly. We have had lots of moisture lately and on June 3rd it snowed all day. There still was some snow on the north side of buildings two days later, on June 5th."

Mr. Biel's letter shows the kind of unusual weather we have been afflicted with this spring. But in spite of this, apples seem to have set as well as usual.

Henry Biel, Jr. and Family

NATIONWIDE NEWS

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GROWERS of fruits are urged by Major General E. B. Gregory, The Quartermaster General, to maintain a high level sulphur dioxide content in all cut fruits delivered to processors, according to the War Department.

General Gregory urges that all cut fruits, when delivered to the processor, have a sulphur dioxide content of 2,000 parts per million as a minimum and 3,500 as a maximum. He points out that fruit highly sulphured by the growers will keep much better than fruit sulphured by the packers, and that it will preserve the color and flavor for extended periods under adverse storage conditions.

He says, "Unusual conditions, including variable temperatures and exposure encountered in the storage of dried cut fruits for the Armed Forces, necessitate a development of improved precautions to insure the maximum life of these products."

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THE War Food Administration announced that measures are being provided to requisition idle farm machinery where necessary and to make it available for purchase by farmers and fruit growers who need it and who can put it to full use.

WFA also is urging farmers to share their machinery and equipment as much as possible. This is necessary in order to meet 1943's food production goals.

County USDA War Boards will determine whether machinery is idle and will request their State USDA War Board chairmen to requisition specified pieces or groups of machinery and equipment. "Idle farm machinery" is defined as being that which is not now in use and which will not be used for agricultural production in 1943 unless requisitioned.

The disposal price on each piece of machinery will be the ceiling price for that type, less necessary costs to put the machinery in working order, or, if no ceiling has been established, a fair appraisal value comparable to ceiling prices on other items will be set.

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THE War Food Administration has asked five U. S. railroad freight associations to lower their rates on used containers, being returned from the North so that southeastern fruit and vegetable growers may cope with a container shortage.

At present high freight rates from the North into the southeastern area bounded by the Mississippi, Ohio and Potomac rivers discourage the return of these containers. Unless southeastern shippers obtain reduced rates, WFA officials said, the supply of containers for moving fruits and vegetables to market will be inadequate. Used containers must go back to southern producing areas for reuse if maximum amounts of fruits and vegetables are to be shipped to northern markets.

LOG SHORTAGE IN BASKET MANUFACTURE

ACCORDING to reports, current at the National Apple Institute Annual Meeting, June 18-19, Washington, D. C., one of the serious problems facing the manufacturers of fruit and vegetable containers is a shortage of hardwood logs.

Many mills have closed, or will close, because of this shortage. Log stocks are short and current deliveries may be almost completely shut off because of war needs and transportation difficulties. Many manufacturers are looking for log supplies.

In view of these conditions, fruit growers are urged to cooperate by supplying available logs from their own woodlands if at all possible. Get in touch with local basket makers on logs best adapted for container manufacture.

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CEILING prices for recapping all sizes of farm tractor tires with Grade F camelback also have been established by OPA. These established maximum prices reflect changes in use of grades of recapping material ordered by WPB and result in slightly lower ceiling prices for the recapping of farm tractor tires.

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THE War Food Administration has authorized manufacturers to distribute, without restriction, 100 per cent of their authorized production of all irrigation equipment.

In November when farm machinery rationing order was issued, manufacturers were authorized to distribute 60 per cent of their authorized production of irrigation equipment. The remaining 40 per cent was withheld as a reserve.

This new action completes the removal of all restrictions on the distribution of: turbine irrigation pumps, centrifugal irrigation pumps, hydraulic rams, land leveling equipment, ditchers, corrugators, scrapers, irrigation pipes, extensions, and sprinklers. However, sales of irrigation equipment to farmers and fruit growers are still subject to local rationing, according to WFA officials.

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CEILING prices have been established on till baskets and berry cups sold in lots of less than 1,000, according to OPA, and another action establishes ceilings for New England market boxes, a wooden box made in bushel and half-bushel sizes in New England for use as a vegetable, fruit and other produce container in that area.

★

ACCORDING to the Office of Information of the U.S.D.A., the War Relocation Authority and War Food Administration are cooperating in a program to obtain agricultural employment for as many as possible of the 20,000 Japanese evacuees who are qualified to do farm work, particularly in the production of fruits and vegetables.

Before persons of Japanese ancestry are placed in either seasonal or year-round agricultural employment, their records are checked by the Federal Bureau of Investigation and the War Relocation Authority determines whether the communities in which they are to be employed are willing to accept them.

★

APPROXIMATELY 20,000 tons of barbed wire with extra long barbs, made for military purposes, will be used to meet a shortage of barbed wire on the farm, according to the War Production Board. Under the present arrangement, the Defense Supplies Corporation will purchase the barbed wire from the Army and resell it to companies which made it. Those companies, in turn, will use the wire temporarily to fill orders from distributors who serve farm requirements.

★

BEGINNING July 1, 1943, there will be a great increase in the production of general farm machinery. The War Production Board has authorized the manufacturing of 80 per cent of the machinery output in 1940 and all restrictions on the manufacture of repair parts have been removed.

The Apples You Pick...
PRODUCE the PROFITS!

It will pay you in extra profits to use S-W Stop-Drop this season to prevent premature dropping of Transparent, Duchess, Wealthy, Jonathan, Golden Delicious, Red Delicious, McIntosh, Stayman and Winesap apples; also Bartlett Pears. The cost is incidental compared with the losses incurred when fruit drops prematurely especially in a season of good prices. Remember, it is the fruit you *pick* that produces the profits.

We are prepared to fill orders now and recommend you buy your 1943 requirements early.

ORDER... *from Your Nearest Dealer*

COLORADO

C. D. Smith Drug Company—Grand Junction

ILLINOIS

Sho-Off Orchards Products Co.—Peoria
W. J. Wise—Barry
Paul Lorsbach—Hardin
S. C. Garrison—Centralia
John Wood—Anna
Adams County Shippers Assn.—Quincy

INDIANA

John Holden—Mitchell
Vincennes Transfer & Storage Co.—Vincennes
Sherwin-Williams Co.—Evansville

KENTUCKY

Louisville Chemical Company—Louisville

MICHIGAN

C E M Packing Company—Benton Harbor
Producers Service Corp.—Benton Harbor
Sodus Fruit Exchange—Sodus
Fruit Sales Agency—Novi
Grand Rapids Growers Assn.—Grand Rapids
South Haven Fruit Exchange—South Haven
Michigan Potato Growers—Cadillac
J. E. McGrath—Benton Harbor

MISSOURI

Bartels & Shores Chemical Company—1401 St. Louis Ave., Kansas City
Bristol Supply Company—402 Messanie St., St. Joseph
Fred Turner—Neosho

NEW JERSEY

Morris April Bros.—Bridgeton
Wm. Schober—Monroeville
Clinton D. Carlough—Allendale
A. D. Runyon—Millington
G. F. Hill Company—Gladstone
Chamberlin & Barclay, Inc.—Cranbury
Conover Bros.—Wickatunk

NEW YORK

J. L. Thompson—Youngstown
Taylor & Baker—Lockport
S. C. Bentley—Lyndonville
Geo. W. Haxton & Son, Inc.—Oakfield
Beach & Maher—Ontario
East Williamson Hdwe. Co.—East Williamson
Engleson & Van Liere—Wolcott
Balcom Bros.—Albion
McCrillis & Company—Holley

OHIO

Holmes Seed Company—Canton
C. E. Opperman—Birmingham
Little Mountain Fruit Growers Assn.—Wilmington
General Mills Farm Service Div.—Ringsville
Jackson County Farm Bureau—Jackson

PENNSYLVANIA

J. V. Meeder—Girard
North East Fruit Growers, Inc.—North East
Blue Ridge Fruit Exchange—Waynesboro
White Rose Seed & Nursery Company—York
Whitmoyer Laboratories—Myerstown
Fruit Growers of Chester County—West Chester
E. H. Vogel—Lancaster

VIRGINIA

F. A. Shryock Company—Winchester
Higgs & Young, Inc.—Staunton
Valley Fertilizer & Chemical Company—Mt. Jackson

THE SHERWIN-WILLIAMS CO.

BUYER'S GUIDE FOR THE FRUIT FARM

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INSECT AND DISEASE CONTROL

DUSTING EQUIPMENT

Dusters

HAND

American Cyanamid & Chemical Corp., Insecticide Dept., New York, N.Y.
John Bean Mfg. Co., Lansing, Mich.
E. C. Brown Co., Rochester, N.Y.
Dobbins Mfg. Co., Elkhart, Ind.
A. B. Farquhar Co., Ltd., York, Pa.
H. D. Hudson Mfg. Co., Chicago, Ill.
Lake Erie Steel & Blanking Co., Cleveland, Ohio
Los Angeles Chemical Co., Los Angeles, Calif.
Messinger Mfg. Co., Tatamy, Pa.
Niagara Sprayer & Chemical Co., Inc., Middleport, N.Y.
Nico-Dust Mfg. Co., Los Angeles, Calif.
Root Mfg. Co., Cleveland, Ohio
D. B. Smith & Co., Utica, N.Y.
Stauffer Chemical Co., New York, N.Y.
Edwin C. Tyson, Flora Dale, Pa.

POWER

Agicide Laboratories, Inc., Milwaukee, Wis.
John Bean Mfg. Co., Lansing, Mich.
A. B. Farquhar Co., Ltd., York, Pa.
"Friend" Mfg. Co., Gasport, N.Y.
Master Fan Corp., Los Angeles, Calif.
Messinger Mfg. Co., Tatamy, Pa.
Niagara Sprayer & Chemical Co., Inc., Middleport, N.Y.
Root Mfg. Co., Cleveland, Ohio
Shunk Mfg. Co., Bucyrus, Ohio
Edwin C. Tyson, Flora Dale, Pa.

Mixers, Dust

Agicide Laboratories, Inc., Milwaukee, Wis.
"Friend" Mfg. Co., Gasport, N.Y.
Lake Erie Steel & Blanking Co., Cleveland, Ohio
Messinger Mfg. Co., Tatamy, Pa.
Niagara Sprayer & Chemical Co., Inc., Middleport, N.Y.
Root Mfg. Co., Cleveland, Ohio
Shunk Mfg. Co., Bucyrus, Ohio

DUSTING MATERIALS

Dust Fillers

Agicide Laboratories, Inc., Milwaukee, Wis.
American Lime & Stone Co., Bellefonte, Pa.
Calcium Carbonate Co., Chicago, Ill.
France Stone Co., Toledo, Ohio
Gibsonburg Lime Products Co., Gibsonburg, Ohio
Ohio Hydrate & Supply Co., Woodville, Ohio
United States Gypsum Co., Chicago, Ill.
Woodville Lime Products Co., Toledo, Ohio

Fluorine Dusts

Aluminum Ore Co., Pittsburgh, Pa.
Chipman Chemical Co., Inc., Bound Brook, N.J.
E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
General Chemical Co., New York, N.Y.
Pennsylvania Salt Mfg. Co., Philadelphia, Pa.
Stauffer Chemical Co., New York, N.Y.

Lime

Aluminum Ore Co., Pittsburgh, Pa.
American Lime & Stone Co., Bellefonte, Pa.
France Stone Co., Toledo, Ohio
Gibsonburg Lime Products Co., Gibsonburg, Ohio
Kimbalton Lime Co., Inc., Shawsville, Va.
Marble Cliff Quarries Co., Columbus, Ohio
Ohio Hydrate & Supply Co., Woodville, Ohio
Scioto Lime & Stone Co., Delaware, Ohio
Tennessee Corp., Lockland, Ohio
United States Gypsum Co., Chicago, Ill.
Woodville Lime Products Co., Toledo, Ohio

Monohydrated Copper Sulphate Dusts

Ansbacher-Siegle Corp., Brooklyn, N.Y.
Chipman Chemical Co., Inc., Bound Brook, N.J.
E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
General Chemical Co., New York, N.Y.
Interstate Chemical Mfg. Co., Reading, Pa.
Mechling Bros. Chemical Co., Camden, N.J.
Miller Chem. & Fertilizer Corp., Baltimore, Md.
Niagara Sprayer & Chemical Co., Inc., Middleport, N.Y.
Phelps Dodge Refining Corp., New York, N.Y.
Sherwin-Williams Co., Cleveland, Ohio
Tennessee Corp., Atlanta, Ga.
Woolfolk Chemical Wks., Ltd., Ft. Valley, Ga.

Nicotine Dusts

Ansbacher-Siegle Corp., Brooklyn, N.Y.
California Spray-Chemical Corp., Richmond Calif.
E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
E. I. du Pont de Nemours & Co., Inc., R. & H. Chemicals Dept., Pacific Div., El Monte, Calif.
General Chemical Co., New York, N.Y.
Interstate Chemical Mfg. Co., Reading, Pa.
Miller Chem. & Fertilizer Corp., Baltimore, Md.
Niagara Sprayer & Chemical Co., Inc., Middleport, N.Y.
Nicotine Production Corp., Clarksville, Tenn.
Tobacco By-Products & Chemical Corp., Louisville, Ky.
Woolfolk Chemical Wks., Ltd., Ft. Valley, Ga.

Pyrethrum Dusts

Agkem Inc., Quincy, Ill.
Ansbacher-Siegle Corp., Brooklyn, N.Y.
Chipman Chemical Co., Inc., Bound Brook, N.J.
General Chemical Co., New York, N.Y.
Kay-Fries Chemicals, Inc., New York, N.Y.
McLaughlin Gormley King Co., Inc., Minneapolis, Minn.
Mechling Bros. Chemical Co., Camden, N.J.
Micronizer Processing Co., Inc., Moorestown, N.J.
Miller Chemical & Fertilizer Corp., Baltimore, Md.
S. B. Penick & Co., New York, N.Y.
B. G. Pratt Co., New York, N.Y.
Stauffer Chemical Co., New York, N.Y.
Woolfolk Chemical Wks., Ltd., Ft. Valley, Ga.

Rotenone Dusts

Agicide Laboratories, Inc., Milwaukee, Wis.
Agkem Inc., Quincy, Ill.
Chipman Chemical Co., Inc., Bound Brook, N.J.
Corona Chemical Div. of Pittsburgh Plate Glass Co., Milwaukee, Wis.
E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
E. I. du Pont de Nemours & Co., Inc., R. & H. Chemicals Dept., Pacific Div., El Monte, Calif.
General Chemical Co., New York, N.Y.
Interstate Chemical Mfg. Co., Reading, Pa.
John Lucas Co., Philadelphia, Pa.
Mechling Bros. Chemical Co., Camden, N.J.
Micronizer Processing Co., Inc., Moorestown, N.J.
Miller Chem. & Fertilizer Corp., Baltimore, Md.
National Sulphur Co., Inc., New York, N.Y.
Niagara Sprayer & Chemical Co., Inc., Middleport, N.Y.
S. B. Penick & Co., New York, N.Y.
Sherwin-Williams Co., Cleveland, Ohio
Stauffer Chemical Co., New York, N.Y.
Woolfolk Chemical Wks., Ltd., Ft. Valley, Ga.

Sulphur Dusts

Ansbacher-Siegle Corp., Brooklyn, N.Y.
Battelle & Renwick, New York, N.Y.
Chipman Chemical Co., Inc., Bound Brook, N.J.
E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
E. I. du Pont de Nemours & Co., Inc., R. & H. Chemicals Dept., Pacific Div., El Monte, Calif.
General Chemical Co., New York, N.Y.
Interstate Chemical Mfg. Co., Reading, Pa.
Koppers Co., Tar and Chemical Div., Pittsburgh, Pa.
John Lucas Co., Philadelphia, Pa.
Mechling Bros. Chemical Co., Camden, N.J.
Merrimac Chemical Co., Everett, Mass.
Micronizer Processing Co., Inc., Moorestown, N.J.
Miller Chem. & Fertilizer Corp., Baltimore, Md.
National Sulphur Co., Inc., New York, N.Y.
Niagara Sprayer & Chemical Co., Inc., Middleport, N.Y.
Sherwin-Williams Co., Cleveland, Ohio
South Haven Chemical Co., South Haven, Mich
Stauffer Chemical Co., New York, N.Y.
Tennessee Corp., Atlanta, Ga.
Woolfolk Chemical Wks., Ltd., Ft. Valley, Ga.

Tri-Basic Copper Sulphate Dusts

General Chemical Co., New York, N.Y.
Miller Chemical & Fertilizer Corp., Baltimore, Md.
Sherwin-Williams Co., Cleveland, Ohio
Tennessee Corp., Atlanta, Ga.

ORCHARD SANITATION

Acetylene Exploder

Salt Lake Stamp Co., Salt Lake City, Utah

FRIGHTEN THE BIRDS

Why take staggering losses year after year from bird-feeding in your fruit plantings? Humanely rid your orchard, grove or small-fruit patch of crop-destroying birds with our exploder that NEVER "falls asleep." Loud, blasting reports and beams of light at night spell terror to birds and foliage-destroying animals. Order now. Protect valuable crops with—

THE AUTOMATIC EXPLODER
SALT LAKE STAMP CO.
43 W. Broadway, Salt Lake City 1, Utah

Bands, Tree

John Bacon Inc., Gasport, N.Y.
M. J. Beck, Successor to M. H. Hunt & Son, Lansing, Mich.
Bemis Bro. Bag Co., St. Louis, Mo.
Fruit & Produce Packing, Inc., Indianapolis, Ind.
Edwin H. House, Saugatuck, Mich.
M. A. Koeller, Barry, Ill.
Miller Chem. & Fertilizer Corp., Baltimore, Md.
Owens-Illinois Glass Co., Toledo, Ohio
F. A. Read, Inc., Winchester, Va.
Rice, Trew & Rice Co., Biglerville, Pa.
Tanglefoot Co., Grand Rapids, Mich.
Edwin C. Tyson, Flora Dale, Pa.

Beta Naphthol

American Cyanamid & Chemical Corp., Insecticide Dept., New York, N.Y.
Braun-Knecht-Heimann-Co., San Francisco, Calif.
Sherwin-Williams Co., Cleveland, Ohio

Brush Burners

Aeroil Burner Co., Inc., West New York, N.J.
E. C. Brown Co., Rochester, N.Y.
Dobbins Mfg. Co., Elkhart, Ind.
Hauck Mfg. Co., Brooklyn, N.Y.
Ker-O-Kil Mfg. Co., San Francisco, Calif.

Brush Cutters

E. C. Atkins & Co., Indianapolis, Ind.
Bartlett Mfg. Co., Detroit, Mich.
Killefer Mfg. Corp., Ltd., Los Angeles, Calif.
A. M. Leonard & Son, Piqua, Ohio
Seymour Smith & Son, Inc., Oakville, Conn.
Carroll R. Tiffany, Conklin, N.Y.
J. Wiss & Sons Co., Newark, N.J.

Calcium Chloride

American Cyanamid & Chemical Corp., New York, N.Y.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
General Chemical Co., New York, N.Y.
Harshaw Chemical Co., Cleveland, Ohio
Merck & Co., Inc., Rahway, N.J.
Pennsylvania Salt Mfg. Co., Philadelphia, Pa.
Solvay Sales Corp., New York, N.Y.
Texas Co., New York, N.Y.

Ethylene Dichloride

Carbide & Carbon Chemicals Corp., New York, N.Y.
Dow Chemical Co., Midland, Mich.
Fred Durand, Woodbury, Ga.
General Chemical Co., New York, N.Y.
McKenzie Chemical Co., Montezuma, Ga.
Miller Chem. & Fertilizer Corp., Baltimore, Md.
Niagara Sprayer & Chemical Co., Inc., Middleport, N.Y.
G. S. Robins Co., St. Louis, Mo.
Woolfolk Chemical Wks., Ltd., Ft. Valley, Ga.

Insect Barriers

California Spray-Chemical Corp., Richmond, Calif.
Clarion Development Co., Clarion, Pa.
Interstate Chemical Mfg. Co., Reading, Pa.
Standard Oil Co. of Indiana, Chicago, Ill.
Tanglefoot Co., Grand Rapids, Mich.

Insect Electrocuters

Alert Electric Door Control Co., Los Angeles, Calif.
Chicago Electric Scientific Co., Chicago, Ill.
Insect Electrocutor Co., Cincinnati, Ohio
Monolite Co., Berkeley, Calif.

INSECT AND DISEASE CONTROL

Rodent Destroyers

FIREARMS

Marlin Firearms Co., New Haven, Conn.
Remington Arms Co., Inc., Bridgeport, Conn.
Savage Arms Co., New York, N.Y.
Winchester Repeating Arms Co., New Haven, Conn.

POISONS

American Cyanamid & Chemical Corp., Insecticide Dept., New York, N.Y.
Antrol Laboratories, Inc., Los Angeles, Calif.
General Chemical Co., New York, N.Y.
K-R-O Co., Springfield, Ohio
Jean Maclean & Associates, Bridgeton, Ind.
Mallinckrodt Chemical Works, St. Louis, Mo.
Rat Biscuit Co., Springfield, Ohio
Rose Rat Exterminator Co., Chicago, Ill.
D. B. Smith & Co., Inc., Utica, N.Y.

TRAPS

Animal Trap Co. of America, Lititz, Pa.
Antrol Laboratories, Inc., Los Angeles, Calif.
Michigan Wire Goods Co., Niles, Mich.

Rodent Repellents

Castle Chemical Co., Castle Rock, Minn.
Clarion Development Co., Inc., Clarion, Pa.
Hammond Paint & Chemical Co., Beacon, N.Y.
J. Livingstone, Jr., Milwaukee, Wis.
Rollin H. Tabor, Mt. Vernon, Ohio
Tanglefoot Co., Grand Rapids, Mich.

Scrapers, Bark

Bartlett Mfg. Co., Detroit, Mich.
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Carroll R. Tiffany, Conklin, N.Y.
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2000° F. controlled heat quickly, easily destroys weeds (seeds and all), poison ivy, crab grass, insects, etc. Keeps driveways, fences, irrigation ditches, orchards, etc., clean. Hundred home and farm uses. Burns kerosene. Inexpensive—safe—easy to use. 10 day trial. 7 popular priced models. Write today for free catalog and prices.

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- **Completely kills Poison Ivy. One application usually does the job.**
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General Chemical Co., New York, N.Y.
James Good Co., Philadelphia, Pa.
Harshaw Chemical Co., Cleveland, Ohio
Interstate Chemical Mfg. Co., Reading, Pa.
Mallinckrodt Chemical Works, St. Louis, Mo
Merck & Co., Inc., Rahway, N.J.
Miller Chemical & Fertilizer Corp., Baltimore, Md.
Pennsylvania Salt Mfg. Co., Philadelphia, Pa.
Sherwin-Williams Co., Cleveland, Ohio
Standard Agricultural Chemicals, Inc., Hoboken, N.J.
Stauffer Chemical Co., Inc., New York, N.Y.
Edwin C. Tyson, Flora Dale, Pa.
Wheeler, Reynolds & Stauffer, San Francisco, Calif.

SPRAYING EQUIPMENT

Pumps, Water System

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American Well Works, Aurora, Ill.
John Bean Mfg. Co., Lansing, Mich.
Campbell & Budlong Machine Works, San Jose, Calif.
A. D. Cook, Inc., Lawrenceburg, Ind.
Crane Co., Chicago, Ill.
Dayton Pump & Mfg. Co., Dayton, Ohio
Decatur Pump Co., Decatur, Ill.
Deming Co., Salem, Ohio
Dempster Mill Mfg. Co., Beatrice, Nebr.
Domestic Engine & Pump Co., Shippensburg, Pa.
Duro Co., Dayton, Ohio
Fairbanks, Morse & Co., Chicago, Ill.
Flint & Walling Mfg. Co., Kendallville, Ind.
Goulds Pumps, Inc., Seneca Falls, N.Y.
Kewanee Private Utilities Co., Kewanee, Ill.
March Automatic Irrigation Co., Muskegon, Mich.
F. E. Myers & Bro. Co., Ashland, Ohio
Novo Engine Co., Lansing, Mich.
Parma Water Lifter Co., Parma, Idaho
Peerless Pump Co., Massillon, Ohio
Pomona Pump Co., Pomona, Calif.
Trupar, Inc., Dayton, Ohio
Weinman Pump Mfg. Co., Columbus, Ohio
Worthington Pump & Machinery Corp., Holyoke, N.J.

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Challenge Co., Batavia, Ill.
Dunck Tank Works, Milwaukee, Wis.
Kalamazoo Tank & Silo Co., Kalamazoo, Mich.
Pacific Lumber Co., San Francisco, Calif.

Spray Accessories

GUNS

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John Bean Mfg. Co., Lansing, Mich.
Deming Co., Salem, Ohio
Dobbins Mfg. Co., Elkhart, Ind.
Double Twirler Spray Nozzle Corp., Red Hook, N.Y.
Eureka Mower Co., Utica, N.Y.
A. B. Farquhar Co., Ltd., York, Pa.
Field Force Mfg. Co., Pottstown, Pa.
"Friend" Mfg. Co., Gasport, N.Y.
W. L. Hamilton & Co., Bangor, Mich.
Hardie Mfg. Co., Hudson, Mich.
H. D. Hudson Mfg. Co., Chicago, Ill.
F. E. Myers & Bro. Co., Ashland, Ohio
Niagara Sprayer & Chemical Co., Inc., Middleport, N.Y.
Sprayer Supply Mfg. Co., Grand Rapids, Mich.
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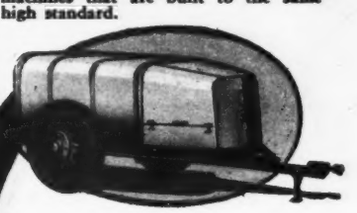
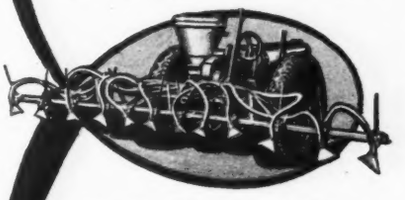


Sprayers: One reason why the "Friend" Sprayer is more dependable, and costs less to operate, is its unrivalled Simplicity of Design. The "Friend" pump has only ½ to 1/3 as many moving parts as others. Every part is easy to get at. Capacities up to 70 gal. per min.; pressures up to 1,000 lb.; all chassis styles.



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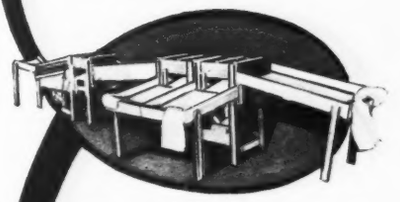

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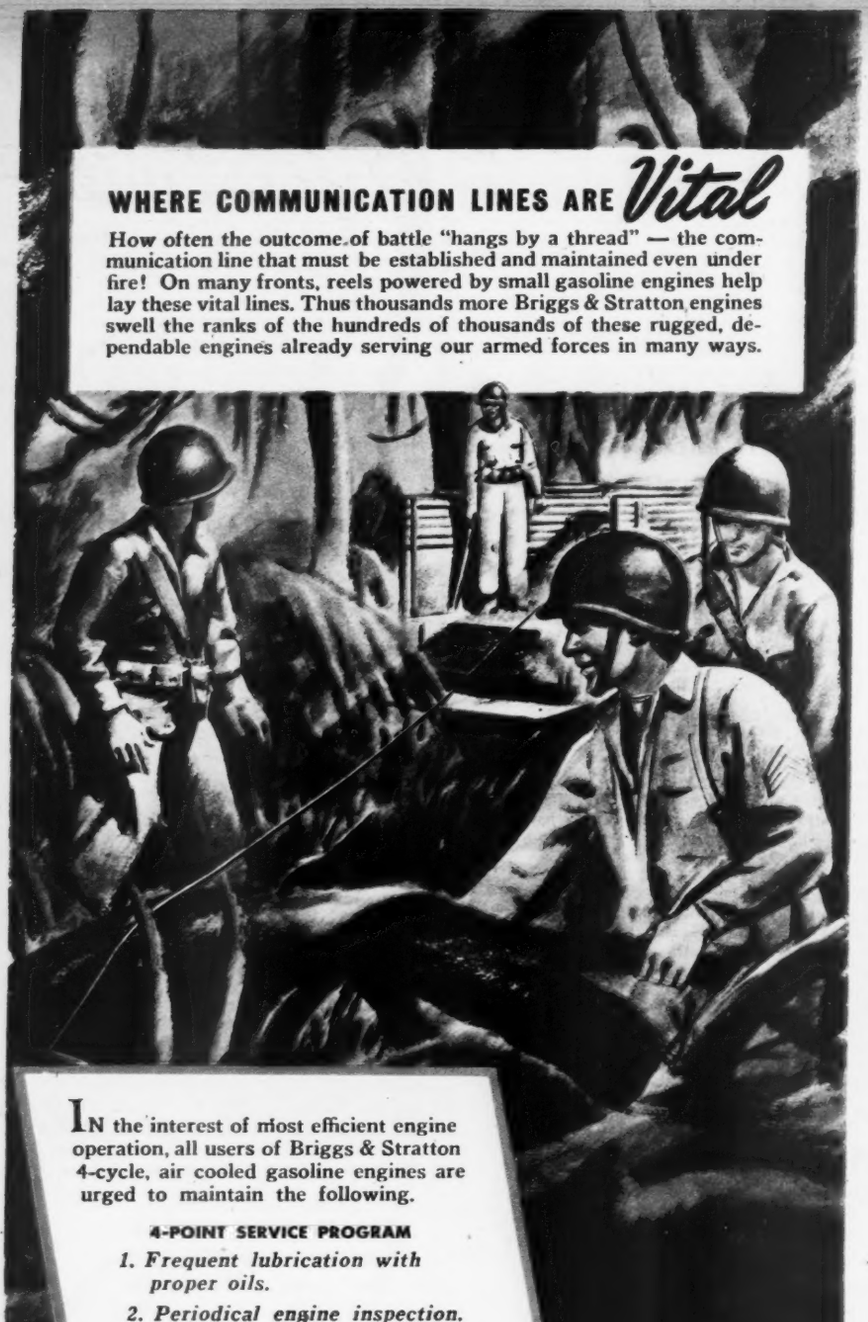
Fewest Moving Parts
"FRIEND"



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How often the outcome of battle "hangs by a thread" — the communication line that must be established and maintained even under fire! On many fronts, reels powered by small gasoline engines help lay these vital lines. Thus thousands more Briggs & Stratton engines swell the ranks of the hundreds of thousands of these rugged, dependable engines already serving our armed forces in many ways.

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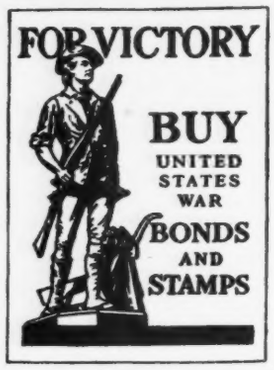
"Friend" Mfg. Co., Gasport, N.Y.
Hardie Mfg. Co., Hudson, Mich.
H. D. Hudson Mfg. Co., Chicago, Ill.
F. E. Myers & Bro. Co., Ashland, Ohio
Niagara Sprayer & Chem. Co., Middleport, N.Y.
D. B. Smith & Co., Utica, N.Y.
Sprayer Supply Mfg. Co., Grand Rapids, Mich.



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for the Small Growers

UNIVERSAL POWER SPRAYER CO.
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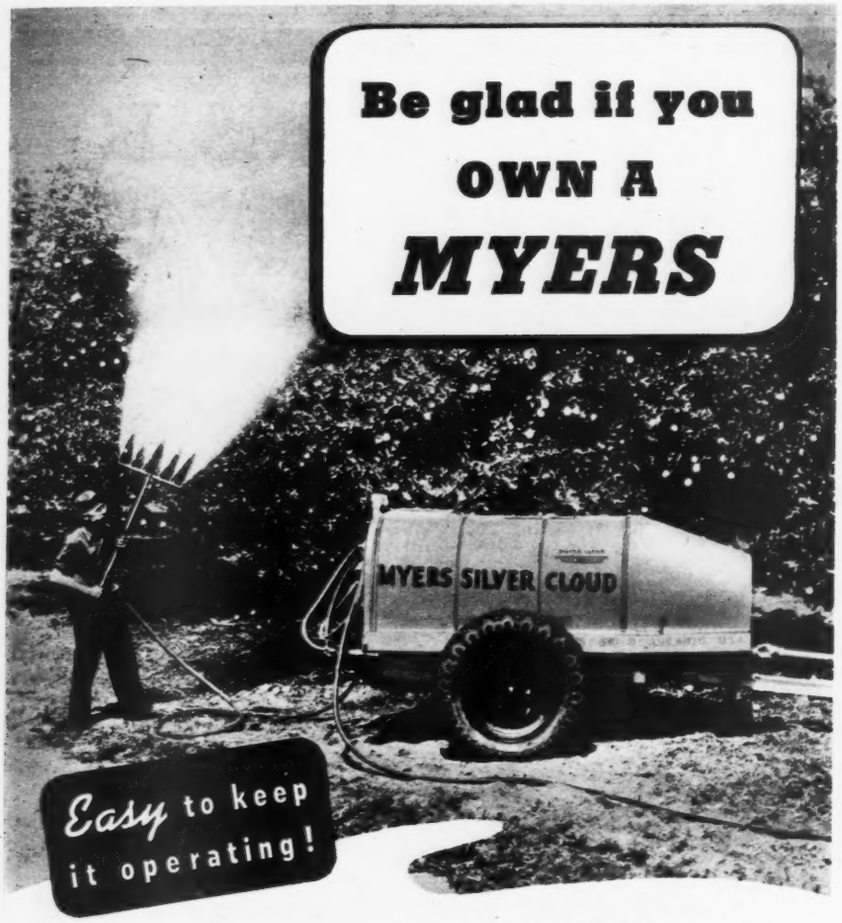

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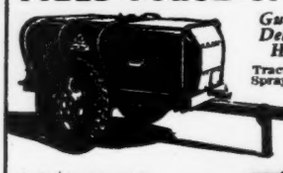
FIELD FORCE SPRAYERS



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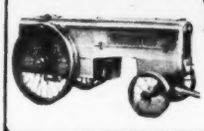
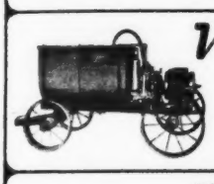


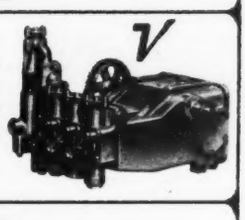
BEAN 'Royal' Armored Sprayer, most efficient power sprayer ever built. All sizes.

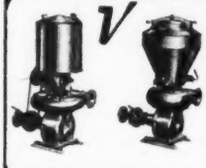
BEAN 'Royal' Tractor Power Sprayer... 2-speed transmission if desired. All sizes.



BEAN 'Little Giant' Duplex Sprayer. Six gallons a min. at 350 lbs. Two-cyl. pump.

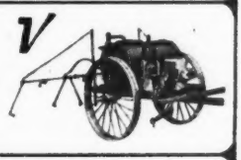
BEAN 'Royal' Pump. Simplest, sturdiest, most efficient spray pump on the market. Built in all sizes.

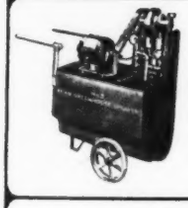




BEAN Orchard Duster. Mixes its own dust... Most efficient duster made. One compact gear unit.

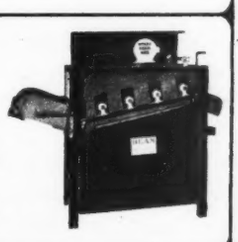
BEAN 'All-Purpose' Sprayer. For row crops and orchard work. Engine driven. Low cost.





BEAN Greenhouse Sprayer. Light, compact, economical. Easy to handle.

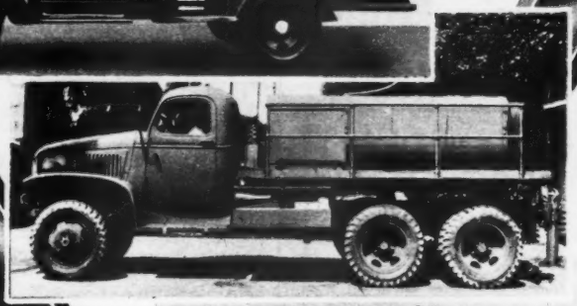
BEAN 2-Way Fruit Cleaner. A dry cleaner which leaves fruit clean and bright. ... 3 sizes.



BEAN Rubber-Spool Grader for potatoes & onions. Also cleans. Small, light, compact.

CUTLER Weight-Type Grader . . . for apples, peaches, pears. Also, Cushman Replacement Engines.

F. M. C. Fog-drive Fire Fighter



F. M. C. Decontaminator

F. M. C. Camouflage Machine

BEAN is in there *FIGHTING!*

Fighting on the Food Front, protecting crops from pests, helping swell production to the limit. Sprayers, Dusters, Cleaning and Grading Machines, Fruit and Truck Handling Equipment of many kinds ... at work in fields and orchards everywhere.

Fighting on the Defense Front, the Battle Front and the Industrial Front with FMC Fog-drive Fire Fighters which have revolutionized fire fighting methods on air fields and against hot and hard-to-control fires.

Fighting with Camouflage Machines to protect air fields, factories, camps, buildings and areas of every description. And with Decontaminators that quickly neutralize poison gases used in gas attacks.

Fighting with many other machines and devices that pour from BEAN and associated Food Machinery Plants, including the famous Amphibian Tanks which travel on land and water.

WITH much of our resources concentrated right now on war production, output of peacetime lines is greatly curtailed. However, if you *must* have new equipment, see your County Rationing Board and place your order with a BEAN dealer. Meanwhile, you can count on us, as always, to back up your dealer in helping you keep your present equipment working at wartime efficiency.

JOHN BEAN MFG. CO. Division of Food Machinery Corporation
15 Hosmer Street, Lansing, Michigan · 104 W. Julian Street, San Jose, California

BEAN SPRAYERS

KEEP 'EM ROLLING FOR VICTORY PRODUCTION

SUBTLE SABOTAGE ...Can Ruin Crops Vital To Victory!

Battle Bugs and Blight With Corona!

DON'T LET an insidious Fifth Column—bugs and blight—sabotage your crops. It can destroy a healthy yield, robbing our armed forces and defense workers of vital foods. Don't let this happen. Spray or dust regularly with Corona Products. These poisons kill insects quicker, assure healthier skin texture and don't burn foliage. Full information about Corona Crop Protection on request. Corona Chemical Division, Pittsburgh Plate Glass Co., Milwaukee, Wis.

CORONA PRODUCTS

CORONA DRY Arsenate of Lead • Corona Calcium Arsenate • Corona Bordeaux Mixture (Dry) • Corona Coppercarb • Corona 50% Plus • Corona Tree Wound Dressing • Corona Dust #50 (containing 1½% Rotenone) • Corona Dust 40-20 (containing .4% Rotenone and 2% Lethane*) • Corona Fungicide Dust (containing Coprocide*) • Corona Micronized Dusting Sulfur • Corona Micronized Wettable Sulfur

*Trade Mark Registered by Rohm & Haas Company

Corona CHEMICALS
DIVISION OF
PITTSBURGH PLATE GLASS COMPANY
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Kryocide

THE NATURAL CRYOLITE

Kryocide may be applied either by dusting or spraying. It has proved an effective control for many insects. Write now for descriptive literature on Kryocide.

PENNSYLVANIA SALT MANUFACTURING COMPANY
Chemicals
PHILADELPHIA, PA. • TACOMA, WASH.

INSECT AND DISEASE CONTROL

SPRAYING MATERIALS

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American Agricultural Chemical Co., New York, N.Y.
California Spray-Chemical Corp., Richmond, Calif.
Chipman Chemical Co., Inc., Bound Brook, N.J.
Corona Chemical Div. of Pittsburgh Plate Glass Co., Milwaukee, Wis.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
General Chemical Co., New York, N.Y.
Interstate Chemical Mfg. Co., Reading, Pa.
Niagara Sprayer & Chem. Co., Middleport, N.Y.
Sherwin-Williams Co., Cleveland, Ohio
Woolfolk Chemical Wks., Ltd., Ft. Valley, Ga.

LEAD ARSENATE
American Agricultural Chemical Co., New York N.Y.
California Spray-Chemical Corp., Richmond, Calif.
Chipman Chemical Co., Inc., Bound Brook, N.J.
Corona Chemical Div. of Pittsburgh Plate Glass Co., Milwaukee, Wis.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
General Chemical Co., New York, N.Y.
Interstate Chemical Mfg. Co., Reading, Pa.
Mechling Bros. Chemical Co., Camden, N.J.
Microniser Processing Co., Inc., Moorestown, N.J.
Niagara Sprayer & Chem. Co., Middleport, N.Y.
Sherwin-Williams Co., Cleveland, Ohio
Woolfolk Chemical Wks., Ltd., Ft. Valley, Ga.

MAGNESIUM ARSENATE
Dow Chemical Co., Midland, Mich.
Mechling Bros. Chemical Co., Camden, N.J.

PARIS GREEN
Ansbacher-Siegle Corp., Brooklyn, N.Y.
Chipman Chemical Co., Inc., Bound Brook, N.J.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
General Chemical Co., New York, N.Y.
Interstate Chemical Mfg. Co., Reading, Pa.
Mechling Bros. Chemical Co., Camden, N.J.
Sherwin-Williams Co., Cleveland, Ohio
Woolfolk Chemical Wks., Ltd., Ft. Valley, Ga.

ZINC ARSENITE
California Spray-Chemical Corp., Richmond, Calif.
General Chemical Co., New York, N.Y.
Sherwin-Williams Co., Cleveland, Ohio

Copper Compounds

BORDEAUX MIXTURE
American Agricultural Chem. Co., New York, N.Y.
California Spray-Chemical Corp., Richmond, Calif.
Chipman Chemical Co., Inc., Bound Brook, N.J.
Corona Chemical Div. of Pittsburgh Plate Glass Co., Milwaukee, Wis.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
E. I. du Pont de Nemours & Co., Inc., R. & H. Chemicals Dept., Pacific Div., El Monte, Calif.
General Chemical Co., New York, N.Y.
Interstate Chemical Mfg. Co., Reading, Pa.
Niagara Sprayer & Chem. Co., Middleport, N.Y.
Phelps Dodge Refining Corp., New York, N.Y.
Sherwin-Williams Co., Cleveland, Ohio
Tennessee Corp., Atlanta, Ga.
Woolfolk Chemical Wks., Ltd., Ft. Valley, Ga.

Insoluble
(Also known as Fixed Coppers)
American Cyanamid & Chemical Corp., New York, N.Y.
California Spray-Chemical Corp., Richmond, Calif.
Chipman Chemical Co., Inc., Bound Brook, N.J.
E. I. du Pont de Nemours & Co., Inc., R. & H. Chemicals Dept., Wilmington, Del.
Harshaw Chemical Co., Cleveland, Ohio
Merck & Co., Inc., Rahway, N.J.
Niagara Sprayer & Chem. Co., Middleport, N.Y.
Rohm & Haas Co., Philadelphia, Pa.
Tennessee Corp., Atlanta, Ga.

Soluble
COPPER SULPHATE
American Cyanamid & Chemical Corp., New York, N.Y.
Chipman Chemical Co., Inc., Bound Brook, N.J.
E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
E. I. du Pont de Nemours & Co., Inc., R. & H. Chemicals Dept., Pacific Div., El Monte, Calif.
General Chemical Co., New York, N.Y.
Harshaw Chemical Co., Cleveland, Ohio
Niagara Sprayer & Chem. Co., Middleport, N.Y.
Phelps Dodge Refining Corp., New York, N.Y.
Sherwin-Williams Co., Cleveland, Ohio
Stauffer Chemical Co., New York, N.Y.
Tennessee Corp., Atlanta, Ga.
Woolfolk Chemical Wks., Ltd., Ft. Valley, Ga.

Sprays and Sunlight - - - -

- - - - Sunlight must reach plant surfaces—it is the sole source of energy for the manufacture of sugar and starches. Spray materials must not cut off sunlight from foliage and fruit. Heavy spray residues are a positive hindrance to normal growth and development.

Tennessee Copper Fungicides

26% Copper, 34% Copper, and Tri-Basic—53% Copper

- - - - leave little visible spray residue, yet provide continuous, uniform, and long-lived coverage. They allow photosynthetic processes to proceed normally. Their use results in faster ripening, larger fruit with higher sugar content, and coloring with more bloom.

- - - - Tennessee Copper Fungicides effectively control bitter rot, scab, blotch, fruit spot, and similar fungus diseases on apples, cherries, pears, and other fruits.

The Mark of Quality

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INSECT AND DISEASE CONTROL

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Chipman Chemical Co., Inc., Bound Brook, N.J.
E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
Pennsylvania Salt Mfg. Co., Philadelphia, Pa.
Stauffer Chemical Co., New York, N.Y.

Dinitro Compounds

Chipman Chemical Co., Inc., Bound Brook, N.J.
Dow Chemical Co., Midland, Mich.
General Chemical Co., New York, N.Y.
Miller Chemical & Fertilizer Corp., Baltimore, Md.
Niagara Sprayer & Chemical Co., Inc., Middleport, N.Y.
Standard Agricultural Chemicals, Inc., Hoboken, N.J.

Ethylene Dichloride

Dow Chemical Co., Midland, Mich.
Fred Durand, Woodbury, Ga.
General Chemical Co., New York, N.Y.
Niagara Sprayer & Chemical Co., Inc., Middleport, N.Y.
Woolfolk Chemical Wks. Ltd., Ft. Valley, Ga.

Fixed Nicotine

E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
Miller Chemical & Fertilizer Corp., Baltimore, Md.
Tobacco By-Products & Chemical Corp., Louisville, Ky.

Fluorine Compounds

Aluminum Ore Co., Pittsburgh, Pa.
American Cyanamid & Chemical Corp., Insecticide Dept., New York, N.Y.
Chipman Chemical Co., Inc., Bound Brook, N.J.
E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
Pennsylvania Salt Mfg. Co., Philadelphia, Pa.
Stauffer Chemical Co., New York, N.Y.

Lime

American Lime & Stone Co., Bellefonte, Pa.
General Chemical Co., New York, N.Y.
Gibsonburg Lime Products Co., Gibsonburg, Ohio
Kimbalton Lime Co., Inc., Shawsville, Va.
Marble Cliff Quarries Co., Columbus, Ohio
Ohio Hydrate & Supply Co., Woodville, Ohio
Scioto Lime & Stone Co., Delaware, Ohio
Woodville Lime Products Co., Toledo, Ohio

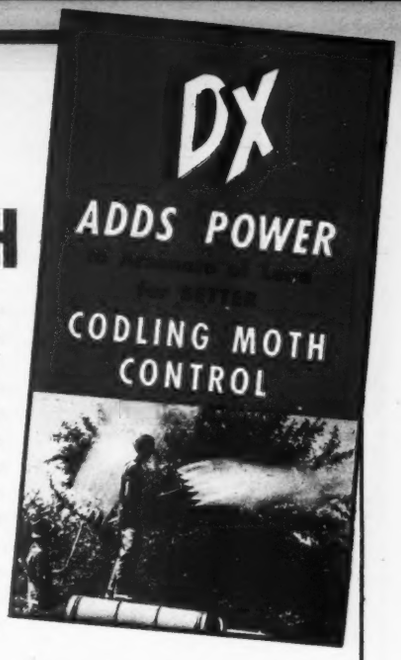
Nicotine Sulphate

California Spray Chemical Corp., Richmond, Calif.
E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
General Chemical Co., New York, N.Y.
James Good Co., Philadelphia, Pa.
Kay-Fries Chemicals, Inc., New York, N.Y.
Niagara Sprayer & Chem. Co., Middleport, N.Y.
Nico-Dust Co., Los Angeles, Calif.
Nicotine Production Corp., Clarksville, Tenn.
B. G. Pratt Co., New York, N.Y.
Sherwin-Williams Co., Cleveland, Ohio
Tobacco By-Products & Chemical Corp., Louisville, Ky.
Woolfolk Chemical Wks., Ltd., Ft. Valley, Ga.

Here's the spray that

STOPS CODLING MOTH

Fruit growers in heavily infested areas are controlling codling moth with D-X Nicotine added to their first brood cover sprays. Simply add D-X Nicotine to your arsenical sprays for extra killing power, without upsetting your regular spray schedule. For second brood, use D-X Nicotine alone, with summer oil or with lead. This program stops stings as well as entries. Also controls leaf hopper, aphis, etc. Give *your* spray program the extra power of D-X. Send today for a copy of Pratt's codling moth spray schedule.



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A NON-CAUSTIC DINITRO DORMANT SPRAY
STANDARD AGRICULTURAL CHEMICALS, Inc.
HOBOKEN, N. J. SACRAMENTO, CAL.

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for dusting and spraying
99.5% minus 325 mesh
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Has good sticking qualities
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C-O-C-S
Copper Oxychloride Sulphate

B-C-H
Brown Coupric Oxide Hydrated

For four years in succession, these recently developed copper fungicides proved safest and most effective for controlling cherry leaf spot when used in concentrations as low as .75 pounds metallic copper with 2 pounds of lime in 100 gallons of water.

Much safer and more convenient than Bordeaux, these insoluble, fluffy fungicides can be used as a dust or spray. They also may be combined safely with insecticides or other fungicides.

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INSECT AND DISEASE CONTROL

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Ansbacher-Siegle Corp., Brooklyn, N.Y.
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Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
E. I. du Pont de Nemours & Co., Inc., R. & H. Chemicals Dept., Pacific Div., El Monte, Calif.
General Chemical Co., New York, N.Y.
James Good Co., Philadelphia, Pa.
Gulf Refining Co., Pittsburgh, Pa.
Interstate Chemical Mfg. Co., Reading, Pa.
Mechling Bros. Chemical Co., Camden, N.J.
Niagara Sprayer & Chemical Co., Inc., Middleport, N.Y.
B. G. Pratt Co., New York, N.Y.
Schaeffer Bros. & Powell Co., St. Louis, Mo.
Shell Oil Co., Inc., New York, N.Y.
Sherwin-Williams Co., Cleveland, Ohio
Silmo Chemical Co., Inc., Vineland, N.J.
Socony-Vacuum Oil Co., New York, N.Y.
Standard Agricultural Chemicals, Inc., Hoboken, N.J.
Standard Oil Co. of Indiana, Chicago, Ill.
Sun Oil Co., Philadelphia, Pa.
Woolfolk Chemical Wks., Ltd., Ft. Valley, Ga.

Organic Compounds

General Chemical Co., New York, N.Y.

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Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
General Chemical Co., New York, N.Y.
James Good Co., Philadelphia, Pa.
Hooker Electrochemical Co., Niagara Falls, N.Y.
Interstate Chemical Mfg. Co., Reading, Pa.
Mechling Bros. Chemical Co., Camden, N.J.
Merck & Co., Inc., Rahway, N.J.
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Para-dichlorobenzene has long been recommended by the U. S. Dept. of Agriculture and leading fruit growers as a *proven* killer of the peach tree borer. It destroys the borer's larvae without harm to the tree... is easy to apply... requires no special equipment... no mixing! Write immediately for complete information on

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Mechling Bros. Chemical Co., Camden, N.J.
S. B. Penick & Co., New York, N.Y.
B. G. Pratt Co., New York, N.Y.

Rotenone Products

Agricide Laboratories, Inc., Milwaukee, Wis.
Agkem, Inc., Quincy, Ill.
Ansbacher-Siegle Corp., Brooklyn, N.Y.
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General Chemical Co., New York, N.Y.
McLaughlin Gormley King, Minneapolis, Minn.
Mechling Bros. Chemical Co., Camden, N.J.
Niagara Sprayer & Chemical Co., Inc., Middleport, N.Y.
S. B. Penick & Co., New York, N.Y.
Stauffer Chemical Co., New York, N.Y.
Woolfolk Chemical Wks., Ltd., Ft. Valley, Ga.

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Archer-Daniels-Midland Co., Minneapolis, Minn.
California Spray-Chemical Corp., Richmond, Calif.
Central Soya Co., Fort Wayne, Ind.
Colloidal Products Corp., San Francisco, Calif.
E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
General Chemical Co., New York, N.Y.
Glidden Co., Soya Products Div., Chicago, Ill.
James Good Co., Philadelphia, Pa.

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FISH OIL SOAPS

No. 3 Soft Potash: wetting, spreading and emulsifying agent.

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National Oil Products, Harrison, N.J.
B. G. Pratt Co., New York, N.Y.
Röhm & Haas Co., Philadelphia, Pa.
Sherwin-Williams Co., Cleveland, Ohio
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Standard Agricultural Chemicals, Inc., Hoboken, N.J.
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Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
General Chemical Co., New York, N.Y.
Interstate Chemical Mfg. Co., Reading, Pa.
Mechling Bros. Chemical Co., Camden, N.J.
Niagara Sprayer & Chemical Co., Inc., Middleport, N.Y.
Sherwin-Williams Co., Cleveland, Ohio

LIQUID LIME SULPHUR

Ansbacher-Siegle Corp., Brooklyn, N.Y.
California Spray-Chemical Corp., Richmond, Calif.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
E. I. du Pont de Nemours & Co., Inc., R. & H. Chemicals Dept., Pacific Div., El Monte, Calif.
General Chemical Co., New York, N.Y.
Interstate Chemical Mfg. Co., Reading, Pa.
Miller Chem. & Fertilizer Corp., Baltimore, Md.
Niagara Sprayer & Chem. Co., Middleport, N.Y.
Sherwin-Williams Co., Cleveland, Ohio
Woolfolk Chemical Wks., Ltd., Ft. Valley, Ga.

WETTABLE SULPHUR

American Cyanamid & Chemical Corp., Insecticide Dept., New York, N.Y.
Calcium Sulphide Corp., Damascus, Va.
California Spray-Chemical Corp., Richmond, Calif.
Camden Coke Plant, Camden, N.J.
Chipman Chemical Co., Inc., Bound Brook, N.J.
Corona Chemical Div. of Pittsburgh Plate Glass Co., Milwaukee, Wis.
Dow Chemical Co., Midland, Mich.
E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
E. I. du Pont de Nemours & Co., Inc., R. & H. Chemicals Dept., Pacific Div., El Monte, Calif.
General Chemical Co., New York, N.Y.
Koppers Products Co., Pittsburgh, Pa.
Micronizer Processing Co., Inc., Moorestown, N.J.
Miller Chem. & Fertilizer Corp., Baltimore, Md.
National Sulphur Co., Inc., New York, N.Y.
Niagara Sprayer & Chemical Co., Inc., Middleport, N.Y.
Sherwin-Williams Co., Cleveland, Ohio
Stauffer Chemical Co., New York, N.Y.
Tennessee Corp., Atlanta, Ga.
Woolfolk Chemical Wks., Ltd., Ft. Valley, Ga.

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E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
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Sherwin-Williams Co., Cleveland, Ohio
Tennessee Corp., Atlanta, Ga.

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Kitselman Bros., Muncie, Ind.

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Iwan Bros., South Bend, Ind.
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Interlocking Fence Co., Morton, Ill.
Kitselman Bros., Muncie, Ind.
Wickwire Spencer Steel Co., New York, N.Y.

Posts

Brown Fence & Wire Co., Cleveland, Ohio
Calumet Steel Co., Chicago, Ill.
Interlocking Fence Co., Morton, Ill.
Kitselman Bros., Muncie, Ind.

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Brown Fence & Wire Co., Cleveland, Ohio
Calumet Steel Co., Chicago, Ill.
Continental Steel Corp., Kokomo, Ind.
Interlocking Fence Co., Morton, Ill.
Kitselman Bros., Muncie, Ind.
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Miller Bros., Whitsett, Texas
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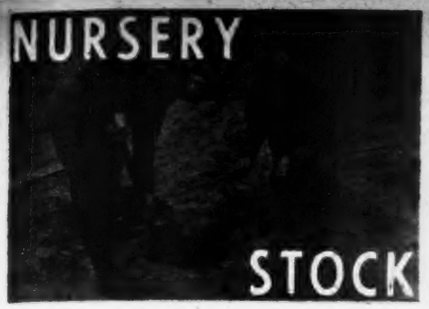
The Puett Co., Hahira, Ga.
Rapides Apiaries, Winnfield, La.
A. I. Root Co., Medina, Ohio
St. Romain's Apiaries, Diamond, La.
Shasta Apiaries, Shasta, Calif.
Stoller Apiaries, Latty, Ohio
Stover Apiaries, Mayhew, Miss.
York Bee Co., Jesup, Ga.



Fruit Trees

Ackerman Nursery, Bridgman, Mich.
Allen's Nurseries & Seed House, Geneva, Ohio
Andrews Nursery Co., Faribault, Minn.
Armstrong Nurseries, Ontario, Calif.
O. A. D. Baldwin Nursery, Bridgman, Mich.
Benton County Nursery Co., Rogers, Ark.
W. A. Bents Nurseries, Cresco, Iowa
Bountiful Ridge Nurseries, Princess Anne, Md.
Bradley Brothers, Carbondale, Ill.
Bridgman Nursery Co., Bridgman, Mich.
Buntings' Nurseries, Inc., Selbyville, Del.
C. R. Burr & Co., Manchester, Conn.
California Nursery Co., Niles, Calif.
Call's Nurseries, Perry, Ohio
Champion Nurseries, Perry, Ohio
Chase Brothers Co., Geneva, N.Y.
Chattanooga Nurseries, Chattanooga, Tenn.
Cole Nursery Co., Painesville, Ohio
Columbia & Okanogan Nursery Co., Wenatchee, Wash.
Condon Bros. Seedsmen, Rockford, Ill.
Daniels Nursery, Inc., Long Lake, Minn.
Emlong's Nursery, Stevensville, Mich.
Grand Island Nurseries, Eustis, Fla.
Greening Nursery Co., Monroe, Mich.
Carl A. Hansen Nursery, Brookings, S.D.
Harrisons' Nurseries, Berlin, Md.
Hill Top Orchard & Nurseries, Hartford, Mich.
I. E. Ilgenfritz' Sons Co., Monroe, Mich.
E. W. Jones Nursery Co., Woodlawn, Va.
J. F. Jones Nurseries, Lancaster, Pa.
R. M. Kellogg Co., Three Rivers, Mich.
Kelly Bros. Nurseries, Dansville, N.Y.
Krider Nurseries, Inc., Middlebury, Ind.
Lake's Shenandoah Nurseries, Shenandoah, Ia.
Maloney Bros. Nursery Co., Dansville, N.Y.
Markham's Nursery, Xenia, Ill.
Thomas B. Meehan Co., Dresher, Pa.
Milton Nursery Co., Milton, Ore.
George A. Morse, Williamson, N.Y.
Mount Arbor Nurseries, Shenandoah, Iowa
New Jersey Peach Council, Princeton, N.J.
Nut Tree Nurseries, Downingtown, Pa.
W. N. Scarff's Sons, New Carlisle, Ohio
South Michigan Nursery, New Buffalo, Mich.
F. C. Stahelin & Son, Bridgman, Mich.
Stark Bro's Nurseries & Orchards Co., Louisiana, Mo.
Storrs & Harrison, Painesville, Ohio
E. W. Townsend Sons, Salisbury, Md.
Vienna Nursery, Vienna, Ill.
Wathena Nurseries, Wathena, Kans.
Waynesboro Nurseries, Waynesboro, Va.
T. B. West & Son, Perry, Ohio
West Hill Nurseries, Fredonia, N.Y.
White Rose Seed & Nursery Co., York, Pa.

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Henry Leuthardt, Port Chester, N.Y.
Maloney Bros. Nursery Co., Dansville, N.Y.
W. N. Scarff's Sons, New Carlisle, Ohio
U. S. Espalier Nursery Co., Inc., Portland, Ore.
T. B. West & Son, Perry, Ohio

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Greening Nursery Co., Monroe, Mich.
House of Gurney, Inc., Yankton, S.D.
Mount Arbor Nurseries, Shenandoah, Iowa
Virginia Tree Farms, Woodlawn, Va.
A. Willis & Co., Ottawa, Kans.

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Allen's Nurseries & Seed House, Geneva, Ohio
Andrews Nursery Co., Faribault, Minn.
Anna Strawberry Nursery, Anna, Ill.
O. A. D. Baldwin Nursery, Bridgman, Mich.
V. P. Basham, Mountainburg, Ark.
Benton County Nursery Co., Rogers, Ark.
W. A. Bents Nurseries, Cresco, Iowa
Bountiful Ridge Nurseries, Princess Anne, Md.
Boysenberry Plantation, Lapeer, Mich.
Fred Braden, Wayzata, Minn.
Bradley Bros., Carbondale, Ill.
Buntings' Nurseries, Inc., Selbyville, Del.
Burr Nurseries, Manchester, Conn.
California Nursery Co., Niles, Calif.
Call's Nurseries, Perry, Ohio
Champion Nurseries, Perry, Ohio
Chattanooga Nurseries, Chattanooga, Tenn.
Cole Nursery Co., Painesville, Ohio
Columbia & Okanogan Nursery Co., Wenatchee, Wash.
Condon Bros. Seedsmen, Rockford, Ill.
Daniels Nursery, Inc., Long Lake, Minn.
Dunham's Grand Mere Nurseries, Baroda, Mich.
Emlong's Nursery, Stevensville, Mich.
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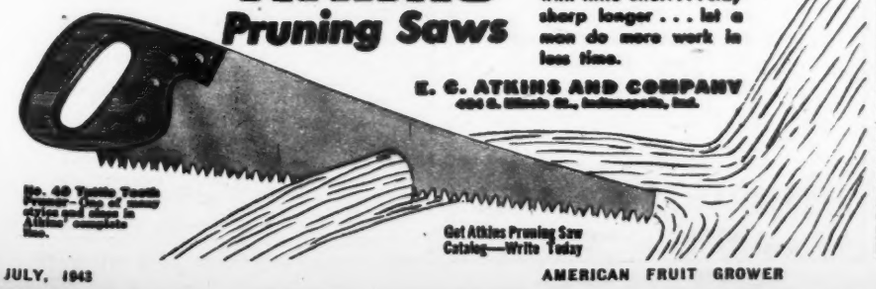

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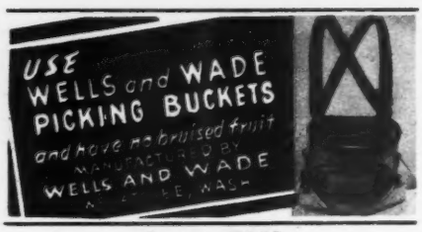

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Alliance Insurance Co., Philadelphia, Pa.
Central Insurance Co. of Baltimore, Baltimore, Md.
Insurance Company of North America, Philadelphia, Pa.
Michigan Fire & Marine Insurance Co., Detroit, Mich.
National Security Insurance Co., Omaha, Nebr.
New England Fire Insurance Co., Pittsfield, Mass.
Philadelphia Fire & Marine Insurance Co., Philadelphia, Pa.
Piedmont Fire Insurance Co., Charlotte, N.C.
Sentinel Fire Insurance Co., Springfield, Mass.
Springfield Fire & Marine Insurance Co., Springfield, Mass.
World Fire & Marine Insurance Co., Hartford, Conn.

PACKING HOUSE EQUIPMENT

Box Forms

Double Twirler Spray Nozzle Corp., Red Hook, N.Y.
Orchard Appliance Co., Wenatchee, Wash.
F. A. Read, Inc., Albion, N.Y.

Box Making Machinery

Cobden Machine Works, Cobden, Ill.
William S. Doig, Inc., Brooklyn, N.Y.
Food Machinery Corp., Santa Ana, Calif.
Morgan Machine Co., Inc., Rochester, N.Y.
Saranac Machine Co., Benton Harbor, Mich.

Bagging Machines

Hampshire Implement Co., Hatfield, Mass.

Basket Making Machinery

Cobden Machine Works, Cobden, Ill.
Saranac Machine Co., Benton Harbor, Mich.

Belt Lacing

Armstrong-Bray & Co., Chicago, Ill.
Detroit Belt Lacer Co., Detroit, Mich.
Flexible Steel Lacing Co., Chicago, Ill.

Boilers

A. B. Farquhar Co., Ltd., York, Pa.
Frick Company, Waynesboro, Pa.

Brushes

American Brush Co., Portland, Ore.
John Bean Mfg. Co., Lansing, Mich.
Fred A. Durand, Woodbury, Ga.
Fuller Brush Co., Hartford, Conn.
Trescott Co., Inc., Fairport, N.Y.
Wayland Machinery Co., Covesville, Va.
Wolfe Brush Co., Pittsburgh, Pa.
Wooster Brush Co., Wooster, Ohio

Chains and Sprockets

American Chain Div., American Chain & Cable Co., Inc., Bridgeport, Conn.
Baldwin-Duckworth Chain Corp., Worcester, Mass.
Diamond Chain & Mfg. Co., Indianapolis, Ind.
H. D. Hudson Mfg. Co., Chicago, Ill.
Link-Belt Co., Chicago, Ill.
Locke Steel Chain Co., Bridgeport, Conn.
Parma Water Lifter Co., Parma, Idaho
Standard Conveyor Co., N. St. Paul, Minn.

Cleaners and Polishers

George G. Bates, Kingston, N.Y.
John Bean Mfg. Co., Lansing, Mich.
Fred A. Durand, Woodbury, Ga.
"Friend" Mfg. Co., Gasport, N.Y.
Niagara Sprayer & Chemical Co., Inc., Middleport, N.Y.
The Taylor Grader, Anna, Ill.
Trescott Co., Inc., Fairport, N.Y.
Edwin C. Tyson, Flora Dale, Pa.
Wayland Machinery Co., Covesville, Va.

Facers, Basket

John Bacon Inc., Gasport, N.Y.
Continental Paper Products Co., Denver, Colo.
Fruit & Produce Packing, Inc., Indianapolis, Ind.
B. F. Goodrich Co., Akron, Ohio
Rice, Trew & Rice Co., Inc., Biglerville, Pa.
Simplex Paper Corp., Adrian, Mich.
Edwin C. Tyson, Flora Dale, Pa.
Webster Basket Co., Webster, N.Y.

Facers, Box

F. A. Read, Inc., Albion, N.Y.

Graders and Sizers

George G. Bates, Kingston, N.Y.
John Bean Mfg. Co., Lansing, Mich.
Brogdex Co., Wenatchee, Wash.
Cutler Mfg. Co., Portland, Ore.
Fred A. Durand, Woodbury, Ga.
"Friend" Mfg. Co., Gasport, N.Y.
Fruit Machines Co., Portland, Ore.
Ideal Grader & Nursery Co., Hood River, Ore.
Niagara Sprayer & Chemical Co., Inc., Middleport, N.Y.
The Taylor Grader, Anna, Ill.
Trescott Co., Inc., Fairport, N.Y.
Edwin C. Tyson, Flora Dale, Pa.
Wayland Machinery Co., Covesville, Va.

Insecticide Diffusors

Tanglefoot Co., Grand Rapids, Mich.

Lidding Machines

John Bean Mfg. Co., Lansing, Mich.
Continental Paper Products Co., Denver, Colo.
Cutler Mfg. Co., Portland, Ore.
William S. Doig, Inc., Brooklyn, N.Y.

Packing Forms

John Bacon Inc., Gasport, N.Y.
Burch Mfg. Co., Lawrence, Mich.
Continental Paper Products Co., Denver, Colo.
Frank L. Deaner & Son, Benton Harbor, Mich.
Fruit & Produce Packing, Inc., Indianapolis, Ind.
Rice, Trew & Rice Co., Inc., Biglerville, Pa.
The Taylor Grader, Anna, Ill.
Edwin C. Tyson, Flora Dale, Pa.
Webster Basket Co., Webster, N.Y.

Packing Tables

Brogdex Co., Wenatchee, Wash.
Fruit Machines Co., Portland, Ore.
Ideal Grader & Nursery Co., Hood River, Ore.
Niagara Sprayer & Chemical Co., Inc., Middleport, N.Y.
The Taylor Grader, Anna, Ill.

Presses, Basket

Acme Veneer Package Co., Orchard Park, N.Y.
Fruit Package Equipment Co., Swoope, Va.

Presses, Box

John Bean Mfg. Co., Lansing, Mich.
Cutler Mfg. Co., Portland, Ore.
Parker Machine Works, Riverside, Calif.

Rings, Sizing

John Bacon Inc., Gasport, N.Y.
F. A. Read, Inc., Albion, N.Y.
Salt Lake Stamp Co., Salt Lake City, Utah
Edwin C. Tyson, Flora Dale, Pa.
Webster Basket Co., Webster, N.Y.

Roller Conveyors

Mathews Conveyor Co. Ellwood City, Pa.
Rapids-Standard Co., Grand Rapids, Mich.
Standard Conveyor Co., N. St. Paul, Minn.

Scales

Exact Weight Scale Co., Columbus, Ohio
Fairbanks, Morse & Co., Chicago, Ill.
Howe Scale Co., Rutland, Vt.

Sorters, Berry

The Taylor Grader, Anna, Ill.

Sorting Tables, Fruit

John Bean Mfg. Co., Lansing, Mich.
Brogdex Co., Wenatchee, Wash.
Cutler Mfg. Co., Portland, Ore.
Fred A. Durand, Woodbury, Ga.
Fruit Machines Co., Portland, Ore.
Fruit Packing Equipment Co., Swoope, Va.
Ideal Grader & Nursery Co., Hood River, Ore.
Niagara Sprayer & Chemical Co., Inc., Middleport, N.Y.
Parma Water Lifter Co., Parma, Idaho
The Taylor Grader, Anna, Ill.
Wayland Machinery Co., Covesville, Va.

Sponge Rubber Sheeting

Broadway Rubber Co., Louisville, Ky.
Faultless Rubber Co., Mansfield, Ohio
Kent Mfg. Co., Grand Rapids, Mich.
Sponge Rubber Products Co., Derby, Conn.
Edwin C. Tyson, Flora Dale, Pa.

Stands, Facing

Fruit Packing Equipment Co., Swoope, Va.

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ECONOMICAL TO BUY . . . ECONOMICAL TO USE

Growers using compact, sturdy Taylor Graders report that each will grade more than 1000 bushels a day. Another Taylor feature: combination apple and peach grader.

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Sections Easily Coupled Together

Handle Your Pack

Here is a way to get your fruit in and out of storage and on its way to market with less labor and handling. From Coast to Coast, for a very small investment, thousands of Rapid-Wheel Conveyor Installations are saving labor and speeding critical foods. It will pay you to learn more about this money-saving handling method. Write today for full information.

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Staplers and Stitchers

Acme Staple Co., Camden, N.J.
Bostitch Sales Co., Greenwich, R.I.
Cobden Machine Works, Cobden, Ill.
Fruit & Produce Packing, Inc., Indianapolis, Ind.
General Food Package Equipment Corp., Benton Harbor, Mich.
Markwell Mfg. Co., Inc., New York, N.Y.
Parrot Speed Fasteners Corp., New York, N.Y.
Saranac Machine Co., Benton Harbor, Mich.

Staples

Fruit & Produce Packing, Inc., Indianapolis, Ind.
Markwell Mfg. Co., Inc., New York, N.Y.
Edwin C. Tyson, Flora Dale, Pa.

Turners, Basket

John Bean Mfg. Co., Lansing, Mich.
Continental Paper Products Co., Denver, Colo.
Fruit & Produce Packing, Inc., Indianapolis, Ind.
Fruit Packing Equipment Co., Swoope, Va.
Niagara Sprayer & Chemical Co., Inc., Middleport, N.Y.
Trescott Co., Inc., Fairport, N.Y.
Edwin C. Tyson, Flora Dale, Pa.

Washers, Fruit

John Bean Mfg. Co., Lansing, Mich.
Brogdex Co., Wenatchee, Wash.
Cutler Mfg. Co., Portland, Ore.
Ideal Grader & Nursery Co., Hood River, Ore.
Parma Water Lifter Co., Parma, Idaho
Edwin C. Tyson, Flora Dale, Pa.
Wayland Machinery Co., Covesville, Va.

Washing Compounds, Fruit

American Cyanamid & Chemical Corp., Insecticide Dept., New York, N.Y.
E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
General Chemical Co., New York, N.Y.
Los Angeles Soap Co., Los Angeles, Calif.
Mallinckrodt Chemical Works, St. Louis, Mo.
Mechling Bros. Chemical Co., Camden, N.J.
Monsanto Chemical Co., Rubber Service Laboratories Div., Akron, Ohio
Philadelphia Quartz Co., Philadelphia, Pa.
Tennessee Eastman Corp., Kingsport, Tenn.

Wax

Brogdex Co., Pomona, Calif.
Dow Chemical Co., Midland, Mich.
Wilbur White Div., Franklin Research Co., Philadelphia, Pa.

STORAGES

Blowers, Fans, Diffusors

American Blower Corp., Detroit, Mich.
Buffalo Forge Co., Buffalo, N.Y.
Carrier Corp., Syracuse, N.Y.
Clarage Fan Co., Kalamazoo, Mich.
Craine, Inc., Norwich, N.Y.
Frick Company, Waynesboro, Pa.
Frigidaire Div., General Motors Sales Corp., Dayton, Ohio
General Electric Co., Bloomfield, N.J.
Ilg Electric Ventilating Co., Chicago, Ill.
Master Fan Corp., Los Angeles, Calif.
Nash-Kelvinator Corp., Detroit, Mich.
Niagara Blower Co., Buffalo, N.Y.
Wolverine Blower Works, Grand Rapids, Mich.
Worthington Pump & Machinery Corp., Harrison, N.J.

Building Papers

Angier Corp., Framingham, Mass.
Sisalkraft Co., Chicago, Ill.

Controlled Atmosphere Storage

AIR SCRUBBERS

E. G. Holmes & Son Ithaca Machine Shop, Ithaca, N.Y.

GAS ANALYSIS APPARATUS

A. H. Thomas Co., Philadelphia, Pa.

Conveyors, Roller

Mathews Conveyor Co., Ellwood City, Pa.
Rapids-Standard Co., Grand Rapids, Mich.
Standard Conveyor Co., N. St. Paul, Minn.

Doors

Baker Ice Machine Co., Inc., Omaha, Nebr.
Craine, Inc., Norwich, N.Y.
Bernard Gloekler Co., Pittsburgh, Pa.
Jamison Cold Storage Door Co., Hagerstown, Md.
National Refrigerator Co., St. Louis, Mo.
York Ice Machinery Corp., York, Pa.

Humidifiers

American Blower Co., Detroit, Mich.
Buffalo Forge Co., Buffalo, N.Y.
Carrier Corp., Syracuse, N.Y.
Frick Company, Waynesboro, Pa.
Frigidaire Div., General Motor Sales Corp., Dayton, Ohio
General Electric Co., Bloomfield,, N.J.
Ilg Electric Ventilating Co., Chicago, Ill.
Westinghouse Electric & Mfg. Co., E. Springfield, Mass.
Worthington Pump & Machinery Corp., Harrison, N.J.

Insulation

Armstrong Cork Co., Lancaster, Pa.
Barrett Co., The, New York, N.Y.
Bird & Son, E. Walpole, Mass.
Philip Carey Co., Lockland, Ohio
The Celotex Corp., Chicago, Ill.
Cork Insulation Co., Inc., New York, N.Y.
Craine, Inc., Norwich, N.Y.
Eagle-Picher Sales Co., Cincinnati, Ohio
General Insulating & Mfg. Co., St. Louis, Mo.
Insulite Co., Minneapolis, Minn.
Johns-Manville, New York, N.Y.
Masonite Corp., Chicago, Ill.
Owens-Illinois Glass Co., Toledo, Ohio
Pacific Lumber Co., San Francisco, Calif.
Pacific Lumber Co., Chicago, Ill.
Refleet-O, Inc., Chicago, Ill.
Ruberoid Co., New York, N.Y.
Servicised Products Corp., Chicago, Ill.
United Cork Companies, W. Kearny, N.J.
United States Gypsum Co., Chicago, Ill.
Wood Conversion Co., St. Paul, Minn.

Refrigeration Machinery

Baker Ice Machine Co., Inc., Omaha, Nebr.
Bedell Engineering Co., Los Angeles, Calif.
Brunner Mfg. Co., Utica, N.Y.
Carrier Corp., Syracuse, N.Y.
De LaVergne Engine Co., Inc., Philadelphia, Pa.
Diceler Corp., Greenville, Pa.
Frick Company, Waynesboro, Pa.
Frigidaire Div., General Motors Sales Corp., Dayton, Ohio
General Electric Co., Bloomfield, N.J.
General Refrigeration Sales Co., Beloit, Wis.
International Harvester Co., Chicago, Ill.
Norge Corp., Detroit, Mich.
Servel, Inc., Evansville, Ind.
Vilter Mfg. Co., Milwaukee, Wis.
Westinghouse Electric & Mfg. Co., E. Springfield, Mass.
Worthington Pump & Machinery Corp., Harrison, N.J.
York Ice Machinery Corp., York, Pa.

Get MAXIMUM Insulating Efficiency in Storage Rooms!

Basically mineral and virtually imperishable, J-M Rock Cork maintains its unusually high insulating effectiveness year after year. Easily applied, adaptable to every type of construction—its use offers the following advantages in fruit-storage rooms:

Unusual resistance to moisture infiltration—immunity to rot and decay—proof against termites—freedom from mold and bacteria—never absorbs or gives off odors.

As a result, J-M Rock Cork is efficiently, economically solving the storage-insulation problem for fruit growers everywhere. For details, write Johns-Manville, 22 E. 40th St., New York, N.Y.

Johns-Manville ROCK CORK

Low-temperature insulation for sheets and for pipe covering

Own these VALUABLE MANUALS

...to help you PLAN FRUIT STORAGE

Efficient cold storage of fruits and vegetables requires more careful planning today than ever before—so before making plans get your FREE PALCO WOOL PLAN BOOKS —Don't delay—WRITE TODAY.

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FLAME PROOF SAFERIZED PROCESS

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UNITED'S B. B. (BLOCK BAKED) CORKBOARD INSULATION

PATENTED

Assures maximum insulation efficiency at minimum cost. Moisture-resistant, compact, light weight, sanitary, structurally strong, flexible.

Write for particulars.

Literature on request

UNITED CORK COMPANIES
WEST KEARNY, N. J.

PROTECT A BUMPER FRUIT CROP IN STORAGE

with

Armstrong's Insulation

This year you're striving to produce a bumper fruit crop and your storage will play an important role in protecting the crop from spoilage. So it's more important than ever to insulate your storage with one of Armstrong's three efficient and dependable insulating materials—Corkboard, Mineral Wool Board, or Foamglas.

These materials effectively bar heat, resist moisture, and help control temperatures and humidities to keep fruit in prime condition. And they also make possible economical operation of storage rooms—a most important consideration.

All three materials are available for immediate delivery with or without priorities.

Armstrong's Corkboard comes in boards 12" x 36" in thicknesses from 1" to 6", while Mineral Wool Board is available in boards 12" x 36" in thicknesses from 1" to 4". Foamglas is furnished in blocks 12" x 18" in thicknesses from 2" to 6". All three materials are easy to handle and can be readily erected with ordinary carpenter tools. Before you build your fruit storage, get the facts from Armstrong. Write today to Armstrong Cork Company, Building Materials Division, 9500 Concord Street, Lancaster, Pa.

ARMSTRONG CORK COMPANY

STORAGES

Thermometers

Bristol Co., Waterbury, Conn.
Eimer & Amend, New York, N.Y.
H-B Instrument Co., Philadelphia, Pa.
Taylor Instrument Co., Rochester, N. Y.

Thermostats

Bristol Co., Waterbury, Conn.
Carrier Corp., Syracuse, N.Y.
Frick Company, Waynesboro, Pa.
General Electric Co., Schenectady, N.Y.
H-B Instrument Co., Inc., Philadelphia, Pa.
Taylor Instrument Co., Rochester, N.Y.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Tile, Building

Craine, Inc., Norwich, N.Y.
Kalamazoo Tank & Silo Co., Kalamazoo, Mich.
Masonite Corp., Chicago, Ill.
National Fireproofing Co., Pittsburgh, Pa.
New Bethlehem Tile Co., New Bethlehem, Pa.

Ventilators

American Rolling Mill Co., Middletown, Ohio
Craine, Inc., Norwich, N.Y.
Ilg Electric Ventilating Co., Chicago, Ill.
James Mfg. Co., Ft. Atkinson, Wis.
Louden Machinery Co., Fairfield, Iowa

Waterproofing Compounds

American Fluresit Co., Cincinnati, Ohio
Bird & Son, Inc., E. Walpole, Mass.
Ceresit Waterproofing Corp., Chicago, Ill.
Johns-Manville, New York, N.Y.
Koppers Products Co., Pittsburgh, Pa.
Toch Brothers, Inc., New York, N.Y.

Store your fruit with

FRICK Refrigeration

Whether you use a central storage or have one right on your farm, you'll find Frick Refrigeration the last word in effectiveness and dependability. Over sixty years' refrigerating experience is back of Frick equipment. As pioneer builders of refrigerated farm storages we have developed them through the last quarter century until they can now hold fruit at overall costs as low as 10 or 12 cents per bushel, for the season. Get a copy of Bulletin 146.

Hillcrest Orchards
New Cumberland, W. Va.

R. S. Dillon
Hancock, Md.

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WAYNESBORO, PENNA. U.S.A.

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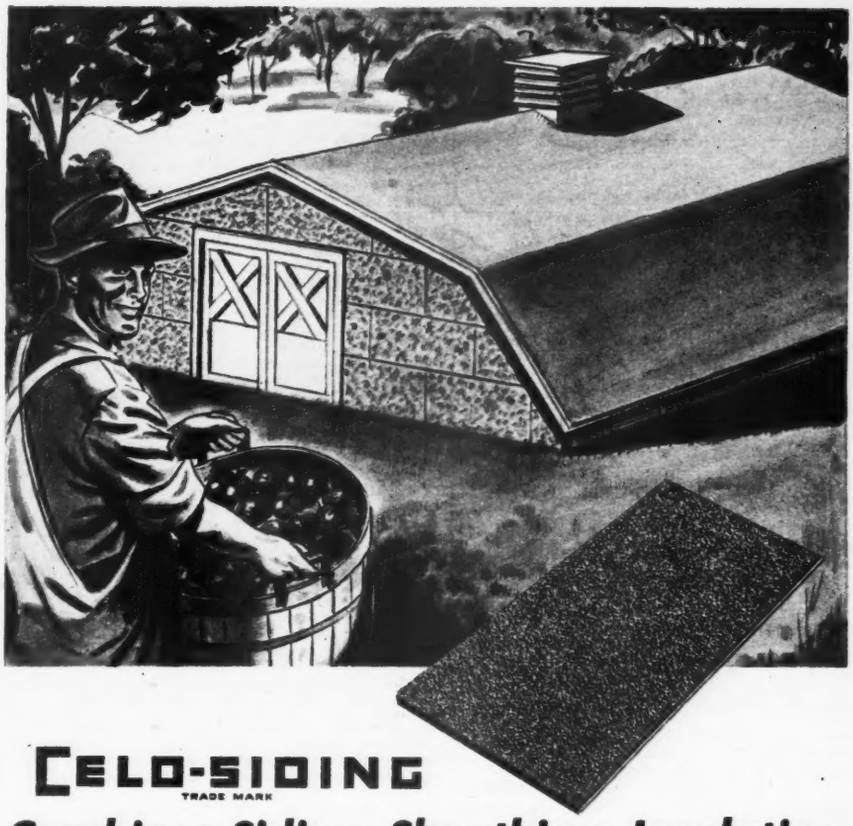
Saving Time, Labor, Critical Materials!



CELO-SIDING
TRADE MARK

Combines Siding, Sheathing, Insulation

NEW, double-duty Celotex CELO-SIDING is "made to order" for today's fruit storage needs, when critical lumber is hard to get and time-saving is so important. It does three jobs—replaces siding, sheathing, and insulation and provides its own durable exterior finish on all types of farm buildings.

CELO-SIDING consists of Celotex cane fibre insulation board, coated on all sides and edges with moisture-proof asphalt. The weather surface has an extra asphalt coating, in which are embedded crushed mineral granules for long-lasting good appearance and weather protection. The big boards are easy to handle and go up fast, applied direct to studding. Sizes: 7/8" thick and 2'x 8' (T&G on long edges) or 4'x 8', 9', or 10' (square edges only) for vertical or horizontal application. Colors: brown, buff, or green.

CELOTEX TRIPLE-SEALED ROOFING, with the extra service of the famous triple-sealed manufacturing process "built in," has earned a national reputation for big value—extra dependability at no extra cost. It offers you a complete range of weights and styles, *and you can get it from your nearest Celotex dealer right now!*

When you build with CELO-SIDING and Celotex Triple-Sealed Roofing, your lumber requirements are cut to a bare minimum. Ask your Celotex dealer for FREE approved plans and suggestions for proper construction of efficient modern fruit and vegetable storages. His experience and suggestions are yours for the asking. See him today!

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ROCK WOOL · GYPSUM WALL BOARD
LATH · PLASTER

THE CELOTEX CORPORATION
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CHICAGO

PACKAGES AND PACKAGING

Caps, Corrugated

John Bacon Inc., Gasport, N.Y.
Berryville Basket Co., Inc., Berryville, Va.
Fruit & Produce Packing, Inc., Indianapolis, Ind.
Hinde & Dauch Paper Co., Sandusky, Ohio
Rice, Trew & Rice Co., Inc., Biglerville, Pa.
Simplex Paper Corp., Adrian, Mich.
Sutherland Paper Co., Kalamazoo, Mich.
Edwin C. Tyson, Flora Dale, Pa.
Webster Basket Co., Webster, N.Y.

Cellophane

E. I. du Pont de Nemours & Co., Inc., "Cellophane" Div., Wilmington, Del.
Sylvania Industrial Corp., New York, N.Y.

Containers

BAGS, CLOTH, OPEN MESH, PAPER

Bemis Bro. Bag Co., St. Louis, Mo.
Chase Bag Co., Chagrin Falls, Ohio
Fulton Bag & Cotton Mills, Atlanta, Ga.

BASKETS, CORRUGATED, FIBERBOARD, PAPERBOARD

American Box Board Co., Grand Rapids, Mich.
Ashtabula Corrugated Box Co., Ashtabula, Ohio
Container Corp. of America, Chicago, Ill.
Arthur A. Erny Co., St. Paul, Minn.
Federal Container Co., Philadelphia, Pa.
Fibreboard Products Inc., San Francisco, Calif.
Fruit & Produce Packing, Inc., Indianapolis, Ind.
Robert Gair Co., Inc., New York, N.Y.
Gaylord Container Corp., Atlanta, Ga.
Hankins Container Co., Cleveland, Ohio
Kieckhefer Container Co., Delair, N.J.
Maryland Container Co., Baltimore, Md.
Ohio Boxboard Co., Rittman, Ohio
Pioneer Paper Stock Co., Chicago, Ill.
Fred C. Strype, New York, N.Y.
Edwin C. Tyson, Flora Dale, Pa.

BASKETS, WOOD

Acme Veneer Package Co., Orchard Park, N.Y.
John Bacon Inc., Gasport, N.Y.
Barden & Robeson Corp., Lockport, N.Y.
Barden & Robeson Corp., Penn Yan, N.Y.
Burlington Basket Co., Burlington, Iowa
Cummer-Graham Co., Paris, Texas
Frank L. Deaner & Son, Benton Harbor, Mich.
Edgerton Mfg. Co., Plymouth, Ind.
Evansville Basket & Crate Co., Evansville, Ind.
F. W. Harrison & Son, Painesville, Ohio
Marietta Fruit Package & Lumber Co., Marietta, Ohio
Paducah Box & Basket Co., Paducah, Ky.
Pierce-Williams Co., South Haven, Mich.
H. L. Rapp & Son, Carpentersville, N.J.
Ripley Box & Basket Co., Inc., Ripley, Tenn.
Roberts-Liggett Co., Metropolis, Ill.
Sodus Basket Co., Sodus, N.Y.
Walter Verhalen Co., Dallas, Texas
Webster Basket Co., Webster, N.Y.

BOX SHOOKS

Acushnet Saw Mills Co., New Bedford, Mass.
Chicago Mill & Lumber Co., Chicago, Ill.
Cummer-Graham Co., Paris, Tex.
General Box Co., Chicago, Ill.
Green Co., Inc., Bellows Falls, Vt.
Holston Box & Lumber Co., Knoxville, Tenn.
Marinette & Menominee Box Co., Marinette, Wis.
Maxwell Brothers, Inc., Chicago, Ill.
Mell Lumber Co., Philadelphia, Pa.
New England Box Co., New York, N.Y.
Rathborne, Hair & Ridgway Co., Chicago, Ill.
Smeed Box Co., Cleveland, Ohio
Spruce Veneer Package Corp., Puyallup, Wash.

APPLE BOXES

Panel End Veneer Type

UNITIZED PARTS

CARLOAD LOTS

Mell Lumber Company

4036 Spruce St., Philadelphia, Penna.

BOXES AND CRATES, BERRY

Acme Veneer Package Co., Orchard Park, N.Y.
American Box Board Co., Grand Rapids, Mich.
Ashtabula Corrugated Box Co., Ashtabula, Ohio
Berlin Fruit Box Co., Berlin Heights, Ohio
Cummer-Graham Co., Paris, Tex.
Federal Container Co., Philadelphia, Pa.
Frank L. Deaner & Son, Sodus, Mich.
Fibre Berry Box Co., Hammond, La.
Fibreboard Products, Inc., San Francisco, Calif.
Fruit & Produce Packing, Inc., Indianapolis, Ind.
Robert Gair Co., Inc., New York, N.Y.
Gaylord Container Corp., Atlanta, Ga.
General Box Co., Chicago, Ill.
F. W. Harrison & Son, Painesville, Ohio
Inman Mfg. Co., Amsterdam, N.Y.
Maryland Container Co., Baltimore, Md.
Maxwell Brothers, Inc., Chicago, Ill.
New Albany Box & Basket Co., New Albany, Ind.
Ohio Boxboard Co., Rittman, Ohio
Ripley Box & Basket Co., Inc., Ripley, Tenn.
Roberts-Liggett Co., Metropolis, Ill.
Rollrim Box Co., Benton Harbor, Mich.
Spruce Veneer Package Corp., Puyallup, Wash.
Edwin C. Tyson, Flora Dale, Pa.
Webster Basket Co., Webster, N.Y.

BOXES AND CRATES, CORRUGATED, FIBERBOARD, PAPERBOARD

American Box Board Co., Grand Rapids, Mich.
Ashtabula Corrugated Box Co., Ashtabula, Ohio
Baltimore Paper Box Co., Baltimore, Md.
Bird & Son, Inc., E. Walpole, Mass.
California Container Corp., Emeryville, Calif.
Container Corp. of America, Chicago, Ill.
Federal Container Co., Philadelphia, Pa.
Evansville Container Co., Evansville, Ind.
Corrugated Container Co., Columbus, Ohio
Fibreboard Products Inc., San Francisco, Calif.
Fruit & Produce Packing, Inc., Indianapolis, Ind.
Robert Gair Co., Inc., New York, N.Y.
Gaylord Container Corp., Atlanta, Ga.
Hankins Container Co., Cleveland, Ohio
Hinde & Dauch Paper Co., Sandusky, Ohio
Iowa Fiber Box Co., Keokuk, Iowa.
Marketing Service Corp., Baltimore, Md.
Maryland Container Co., Baltimore, Md.
Ohio Boxboard Co., Rittman, Ohio
Owens-Illinois Pacific Coast Co., San Francisco, Calif.
Pioneer Paper Stock Co., Chicago, Ill.
B. G. Pratt Co., New York, N.Y.
Rollrim Box Co., Benton Harbor, Mich.
Simplex Paper Corp., Adrian, Mich.
Fred C. Strype, New York, N.Y.
Traub Container Corp., Cleveland, Ohio
Edwin C. Tyson, Flora Dale, Pa.
Van Vick Paper Co., Duluth, Minn.

BOXES AND CRATES, WOOD

John Bacon Inc., Gasport, N.Y.
Barden & Robeson Corp., Lockport, N.Y.
Barden & Robeson Corp., Penn Yan, N.Y.
California Barrel Co., Ltd., Los Angeles, Calif.
Chicago Mill & Lumber Co., Chicago, Ill.
H. A. Du Bois & Sons, Inc., Cobden, Ill.
Evans Products Co., Detroit, Mich.
Evansville Container Co., Evansville, Ind.
General Box Co., Chicago, Ill.
F. W. Harrison & Son, Painesville, Ohio
Maxwell Brothers, Inc., Chicago, Ill.
Mell Lumber Co., Philadelphia, Pa.
T. R. Miller Mill Co., Inc., Brewton, Ala.
New Albany Box & Basket Co., New Albany, Ind.
New England Box Co., New York, N.Y.
Rathborne, Hair & Ridgway Co., Chicago, Ill.
Smeed Box Co., Cleveland, Ohio
Sodus Basket Co., Sodus, N.Y.
Southern Crate & Veneer Co., Macon, Ga.
Spruce Veneer Package Corp., Puyallup, Wash.
Traub Container Corp., Cleveland, Ohio
Edwin C. Tyson, Flora Dale, Pa.

CARTONS, CONSUMER

American Box Board Co., Grand Rapids, Mich.
California Container Corp., Emeryville, Calif.
Federal Container Co., Philadelphia, Pa.
Fruit & Produce Packing, Inc., Indianapolis, Ind.
Fibreboard Products, Inc., San Francisco, Calif.
Robert Gair Co., Inc., New York, N.Y.
Marketing Service Corp., Baltimore, Md.
Maryland Container Co., Baltimore, Md.

Cushions

Continental Paper Products Co., Denver, Colo.
F. D. Croce & Co., Inc., New York, N.Y.
Edgerton Mfg. Co., Plymouth, Ind.
Arthur A. Erny Co., St. Paul, Minn.
Fruit & Produce Packing, Inc., Indianapolis, Ind.
Georgia Cushion & Wrapper Co., Inc., Woodland, Ga.
Hinde & Dauch Paper Co., Sandusky, Ohio
Rice, Trew & Rice Co., Inc., Biglerville, Pa.
Simplex Paper Corp., Adrian, Mich.
Fred C. Strype, New York, N.Y.
Sutherland Paper Co., Kalamazoo, Mich.
Edwin C. Tyson, Flora Dale, Pa.

Fringes

Continental Paper Products Co., Denver, Colo.
F. D. Croce & Co., Inc., New York, N.Y.
Arthur A. Erny Co., St. Paul, Minn.
Fruit & Produce Packing, Inc., Indianapolis, Ind.
Pioneer Paper Stock Co., Chicago, Ill.
Rice, Trew & Rice Co., Inc., Biglerville, Pa.
Sutherland Paper Co., Kalamazoo, Mich.

Labels

Brandau-Craig-Dickerson Co., Nashville, Tenn.
F. D. Croce & Co., Inc., New York, N.Y.
Epsen Lithographing Co., Omaha, Nebr.
Federal Container Co., Philadelphia, Pa.
Fibreboard Products, Inc., San Francisco, Calif.
Gamse Lithographing Co., Inc., Baltimore, Md.
A. Hoen & Co., Baltimore, Md.
Maryland Container Co., Baltimore, Md.
A. B. Morse Co., St. Joseph, Mich.
Schmidt-Lithograph Co., San Francisco, Calif.
United States Printing & Lithograph Co., Cincinnati, Ohio

Liners

Berryville Basket Co., Inc., Berryville, Va.
Continental Paper Products Co., Denver, Colo.
F. D. Croce & Co., Inc., New York, N.Y.
Frank L. Deaner & Son, Benton Harbor, Mich.
Edgerton Mfg. Co., Plymouth, Ind.
Arthur A. Erny Co., St. Paul, Minn.
Evansville Container Co., Evansville, Ind.
Fruit & Produce Packing, Inc., Indianapolis, Ind.
New Albany Box & Basket Co., New Albany, Ind.
Pioneer Paper Stock Co., Chicago, Ill.
Rice, Trew & Rice Co., Inc., Biglerville, Pa.
Simplex Paper Corp., Adrian, Mich.
Fred C. Strype, New York, N.Y.
Sutherland Paper Co., Kalamazoo, Mich.
Edwin C. Tyson, Flora Dale, Pa.

Pads

John Bacon Inc., Gasport, N.Y.
California Container Corp., Emeryville, Calif.
Continental Paper Products Co., Denver, Colo.
Frank L. Deaner & Son, Benton Harbor, Mich.
Fibreboard Products Inc., San Francisco, Calif.
Fruit & Produce Packing, Inc., Indianapolis, Ind.
Hinde & Dauch Paper Co., Sandusky, Ohio
New Albany Box & Basket Co., New Albany, Ind.
Fred C. Strype, New York, N.Y.
Edwin C. Tyson, Flora Dale, Pa.

Paper, Shredded

John Bacon Inc., Gasport, N.Y.
Continental Paper Products Co., Denver, Colo.
F. D. Croce & Co., Inc., New York, N.Y.
Diamond-T-Waxed Paper Corp., Chicago, Ill.
E. I. du Pont de Nemours & Co., Inc., "Cellophane" Div., Wilmington, Del.
Fruit & Produce Packing, Inc., Indianapolis, Ind.
Miller Chemical & Fertilizer Corp., Baltimore, Md.
Rice, Trew & Rice Co., Inc., Biglerville, Pa.
Fred C. Strype, New York, N.Y.
Sylvania Industrial Corp., New York, N.Y.
Edwin C. Tyson, Flora Dale, Pa.
Webster Basket Co., Webster, N.Y.

Stamping Inks and Pads

Rivet-O Mfg. Co., Orange, Mass.

Stamps, Rubber

W. J. Cooley & Co., Memphis, Tenn.
Jas. H. Matthews & Co., Pittsburgh, Pa.
J. L. May Co., New York, N.Y.
Rivet-O Mfg. Co., Orange, Mass.
Taylor Bros. Co., Cleveland, Ohio

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WITH THIS STAMP
Clearly Quickly
This stamp has interchangeable type to change the size, grade and brand in a second. It SPEEDS YOUR MARKING 200%. Can be made to meet requirements of every state. Write for prices and folder.
MASSACHUSETTS
MIN. SIZE 2¼ FANCY
Mass. Approved-Crate
GREENINGS
PACKED BY
R. D. MARCH
Shelburne Falls, Mass.
RIVET-O MFG. CO.
55 Orchard St., Orange, Mass.

Wrappers

METAL FOIL

Belmont Smelting & Refining Works, Inc., Brooklyn, N.Y.
Reynolds Metals Co., Inc., New York, N.Y.

OILED

F. D. Croce & Co., Inc., New York, N.Y.
Fruit & Produce Packing, Inc., Indianapolis, Ind.
Pioneer Paper Stock Co., Chicago, Ill.
Fred C. Strype, New York, N.Y.

PLAIN

F. D. Croce & Co., Inc., New York, N.Y.
Fruit & Produce Packing, Inc., Indianapolis, Ind.
Edwin C. Tyson, Flora Dale, Pa.
United Paper Co., Tampa, Fla.
Wolf River Paper & Fiber Co., Shawano, Wis.

TRANSPARENT

Brooks Paper Co., St. Louis, Mo.
E. I. du Pont de Nemours & Co., Inc., "Cellophane" Div., Wilmington, Del.
Eastman Kodak Co., Rochester, N.Y.
Fruit Machines Co., Portland, Ore.
Goodyear Tire & Rubber Co., Akron, Ohio
Thomas M Royal & Co., Philadelphia, Pa.
Fred C. Strype, New York, N.Y.
Sylvania Industrial Corp., New York, N.Y.

ORCHARD INSTRUMENTS

Barometers

Bristol Co., Waterbury, Conn.
Fleischhauer, Fr., & Son, Hollis, N.Y.
Precision Thermometer & Instrument Co., Philadelphia, Pa.
Scientific Instrument Co., Detroit, Mich.
Taylor Instrument Co., Rochester, N.Y.

Hydrometers

Eimer & Amend, New York, N.Y.
Fleischhauer, Fr., & Son, Hollis, N.Y.
H-B Instrument Co., Philadelphia, Pa.
Hydraulic Press Mfg. Co., Mt. Gilead, Ohio
E. W. Schultheis, Brooklyn, N.Y.
Taylor Instrument Co., Rochester, N.Y.
Edwin C. Tyson, Flora Dale, Pa.

Hygrometers

Bristol Co., Waterbury, Conn.
Eimer & Amend, New York, N.Y.
H-B Instrument Co., Philadelphia, Pa.
Precision Thermometer & Instrument Co., Philadelphia, Pa.
Taylor Instrument Co., Rochester, N.Y.
Edwin C. Tyson, Flora Dale, Pa.

Levels

Bostrom-Brady Mfg. Co., Atlanta, Ga.
Exact Level & Tool Mfg. Co., High Bridge, N.J.
Kolesch & Co., New York, N.Y.

Magnifiers, Hand

American Optical Co., Southbridge, Mass.
Bausch & Lomb Optical Co., Rochester, N.Y.
Edwin C. Tyson, Flora Dale, Pa.
Carl Zeiss, Inc., New York, N.Y.

Microscopes

Bausch & Lomb Optical Co., Rochester, N.Y.
Eimer & Amend, New York, N.Y.
Spencer Lens Co., Buffalo, N.Y.
Carl Zeiss, Inc., New York, N.Y.

Thermometers

Bristol Co., Waterbury, Conn.
Eimer & Amend, New York, N.Y.
Frick Company, Waynesboro, Pa.
H-B Instrument Co., Philadelphia, Pa.
Taylor Instrument Co., Rochester, N.Y.

Thermostats

Bristol Co., Waterbury, Conn.
General Electric Co., Schenectady, N.Y.
H-B Instrument Co., Inc., Philadelphia, Pa.
Taylor Instrument Co., Rochester, N.Y.
Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

Weather Vanes

Edwards Mfg. Co., Cincinnati, Ohio
J. W. Fiske Iron Works, New York, N. Y.
Julien P. Friez & Sons, Inc., Baltimore, Md.
Gerock Bros. Mfg. Co., St. Louis, Mo.
Henry J. Green, Brooklyn, N.Y.
Wm. G. Henis Sons & Co., Philadelphia, Pa.
F. P. Smith Wire & Iron Wks., Chicago, Ill.
W. A. Snow Iron Works, Boston, Mass.

FROST PROTECTION

Engines

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Caterpillar Tractor Co., Peoria, Ill.
Continental Motors Corp., Detroit, Mich.
John Deere, Moline, Ill.
Fairbanks, Morse & Co., Chicago, Ill.
Hercules Motor Co., Canton, Ohio
International Harvester Co., Chicago, Ill.
Waukesha Motor Co., Waukesha, Wis.
Wisconsin Motor Corp., Milwaukee, Wis.
Witte Engine Works, Inc., Kansas City, Mo.

Indicators, Frost Alarm

W. R. Ames Co., San Francisco, Calif.
Taylor Instrument Co., Rochester, N.Y.
Thwing Instrument Co., Philadelphia, Pa.

Motors, Electric

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Fairbanks, Morse & Co., Chicago, Ill.
General Electric Co., Schenectady, N.Y.
Westinghouse Electric & Mfg. Co., Pittsburgh, Pa.

Orchard Heaters

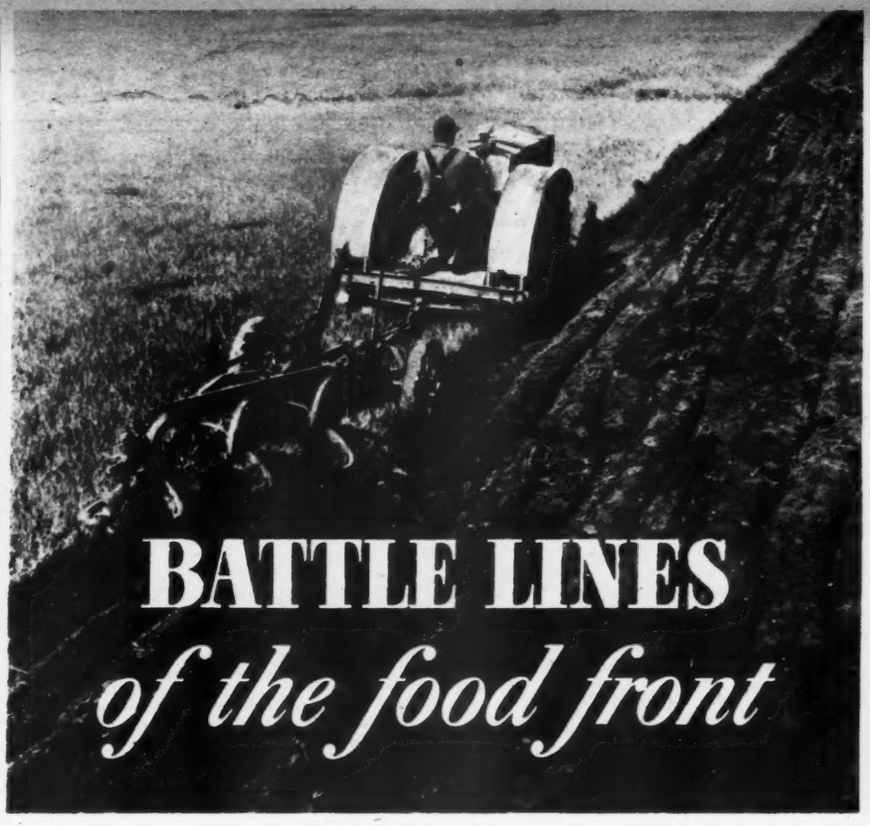
American Can Co., New York, N.Y.
W. R. Ames Co., San Francisco, Calif.
Anderson Incinerator Works, Chicago, Ill.
California Orchard Heater Co., Pomona, Calif.
Kittle Mfg. Co., Los Angeles, Calif.
National-Riverside Co., Riverside, Calif.
Scheu Products Co., Ltd., Upland, Calif.

Torches, Lighting

W. R. Ames Co., San Francisco, Calif.

Wind Machines

Conveyor Co., Inc., Huntington Park, Calif.
Towt Co., Glendale, Calif.



EVERY day our Army buys nearly three million dollars' worth of food.

Every day five million dollars' worth of food sails away on lend-lease.

And every day 126 other million Americans at home must be fed.

So it's easy to see the job that faces the farmers—and one of the jobs that face the railroads.

Food, war goods, ore, coal, oil, everything—it all adds up to a total of 1⅓ million tons being moved a mile every minute.

To do it the railroads are starting a loaded freight train on its run every four seconds.

They are also starting a special troop movement every six minutes of the day and night.

New equipment and needed materials are next to impossible to get. And there is a limit to the load which can be carried by the railroads with what they now have.

That's why coaches are sometimes crowded, why trains are sometimes late, why you cannot always travel as comfortably as in the past.

Like the farmers on the food front, however, the railroads are devoting every bit of their experience and initiative to provide the transportation needed to keep our battle lines strong.

ASSOCIATION OF AMERICAN RAILROADS

ALL UNITED FOR VICTORY

FRUIT PROCESSING

CANNING, PRESERVING

Clarifying Agents

American Colloid Co., Chicago, Ill.
Braun-Knecht-Heimann-Co., San Francisco, Calif.
Hydraulic Press Mfg. Co., Mt. Gilead, Ohio
Johns-Manville, New York, N.Y.
Scientific Filter Co., New York, N.Y.
Wyodak Chemical Co., Cleveland, Ohio

Cookers, Apple Butter

Brighton Copper Works, Cincinnati, Ohio
Bucyrus Copper Kettle Works Co., Bucyrus, Ohio
A. B. Farquhar Co., Ltd., York, Pa.
Arthur Harris & Co., Chicago, Ill.
Hydraulic Press Mfg. Co., Mt. Gilead, Ohio

Corers

Boutell Mfg. Co., Rochester, N.Y.
Burns Mfg. Co., Syracuse, N.Y.
Food Machinery Co., (Sprague-Sells Div.) Hoopeston, Ill.
F. B. Pease Co., Rochester, N.Y.
Rollman Mfg. Co., Mt. Joy, Pa.
Urschel & Sons Laboratories, Valparaiso, Ind.
Zastrow Machine Co., Baltimore, Md.

Pectin

California Fruit Growers Exchange, Products Dept., Ontario, Calif.
General Foods Sales Co., New York, N.Y.
Pen-Jel Corp., Kansas City, Mo.
Skinner Mfg. Co., Omaha, Nebr.

Peelers

Josiah Anstice & Co., Inc., Rochester, N.Y.
Boutell Mfg. Co., Rochester, N.Y.
Burns Mfg. Co., Syracuse, N.Y.
Food Machinery Corp., (Sprague-Sells Div.) Hoopeston, Ill.
Hobart Mfg. Co., Troy, Ohio
Sanitary Food Processing Co., Seattle, Wash.

Pomace Pickers

A. B. Farquhar Co., Ltd., York, Pa.
Hydraulic Press Mfg. Co., Mt. Gilead, Ohio

Pulpers

Enterprise Mfg. Co. of Pa., Philadelphia, Pa.
A. B. Farquhar Co., Ltd., York, Pa.
Food Machinery Corp., Anderson-Barngrover Div., San Jose, Calif.
F. H. Langsenkamp Co., Indianapolis, Ind.
Queen City Engineering Co., Buffalo, N.Y.

Sealers

Food Machinery Corp., Anderson-Barngrover Div., San Jose, Calif.
National Can Co., Inc., New York, N.Y.
National Pressure Cooker Co., Eau Claire, Wis.

Seeders, Fresh Fruit

Elliott Mfg. Co., Fresno, Calif.

Slicers

Josiah Antice & Co., Rochester, N.Y.
Boutell Mfg. Co., Rochester, N.Y.
Enterprise Mfg. Co., Philadelphia, Pa.
Food Machinery Corp., Anderson-Barngrover, Div., San Jose, Calif.
Kellefir Mfg. Co., Los Angeles, Calif.
F. B. Pease Co., Rochester, N.Y.
Rollman Mfg. Co., Mt. Joy, Pa.
Urschel & Sons Laboratories, Inc., Valparaiso, Ind.
Zastrow Machine Co., Baltimore, Md.

Stoners, Cherry

Atlas Tool & Machine Co., Boston, Mass.
Dunkley Co., Kalamazoo, Mich.
Enterprise Mfg. Co. of Pa., Philadelphia, Pa.
Hutley Mfg. Co., Brocton, N.Y.
New Standard Corp., Mt. Joy, Pa.
Rollman Mfg. Co., Mt. Joy, Pa.

Stoners, Peach

Barr Bros. Co., Oakland, Calif.
Dunkley Co., Kalamazoo, Mich.
Rollman Mfg. Co., Mt. Joy, Pa.
L. K. Vaughan, Woodland, Calif.

Sulphur Dioxide

Braun-Knecht-Heimann-Co., San Francisco, Calif.
E. I. du Pont de Nemours & Co., Inc., Grasselli Chemicals Dept., Wilmington, Del.
Virginia Smelting Co., West Norfolk, Va.

DEHYDRATING

Bleaching Materials

National Sulphur Co., Inc., New York, N.Y.
Stauffer Chemical Co., New York, N.Y.
Virginia Smelting Co., West Norfolk, Va.

Dehydrators

E. H. Guthier & Co., Santa Ana, Calif.
L. N. Miller Dehydrating Co., Eugene, Ore.
Moore Dry Kiln Co., No. Portland, Ore.
Orkil, Inc., Higganum, Conn.
Procter & Schwartz, Inc., Philadelphia, Pa.

Evaporators

Buffalo Foundry & Machine Co., Buffalo, N.Y.
Devine Mfg. Co., Mount Vernon, Ill.
Stokes Machine Co., Philadelphia, Pa.
Pfaudler Co., Rochester, N.Y.

JUICE EXTRACTING

Caps and Closures

Armstrong Cork Co., Lancaster, Pa.
Ball Bros. Co., Muncie, Ind.
Crown Cork & Seal Co., Baltimore, Md.
Cupples Co., St. Louis, Mo.
Hazel-Atlas Glass Co., Wheeling, W.Va.
Kerr Glass Mfg. Corp., Sand Springs, Okla.
Owens-Illinois Glass Co., Toledo, Ohio
Phoenix Metal Cap Co., Chicago, Ill.

Extractors, Juice

American Utensil Co., Chicago, Ill.
Burns Mfg. Co., Syracuse, N.Y.
Enterprise Mfg. Co. of Pa., Philadelphia, Pa.
L. O. Koven & Bro., Inc., Jersey City, N.J.
F. H. Langsenkamp Co., Indianapolis, Ind.
New Standard Corp., Mt. Joy, Pa.

Filters, Fruit Juice

Cuno Engineering Co., Meriden, Conn.
Dicalite Co., New York, N.Y.
Food Machinery Corp., Anderson-Barngrover Div., San Jose, Calif.
Hydraulic Press Mfg. Co., Mt. Gilead, Ohio
Johns-Manville, New York, N.Y.
Oliver United Filters, Inc., New York, N.Y.
Palmer Bros., Cos Cob, Conn.
Republic Filters, Inc., New York, N.Y.
Scientific Filter Co., New York, N.Y.
Seattle Tent & Awning Co., Seattle, Wash.

Graters

A. B. Farquhar Co., Ltd., York, Pa.
Hamilton Metal Products Co., Hamilton, Ohio
Hydraulic Press Mfg. Co., Mt. Gilead, Ohio
New Jersey Agricultural Works, Trenton, N.J.
Palmer Bros., Cos Cob, Conn.
Thomas-Albright Co., Goshen, Ind.

Grinders

A. B. Farquhar Co., Ltd., York, Pa.
Food Machinery Corp., Anderson-Barngrover Div., San Jose, Calif.
Hydraulic Press Mfg. Co., Mt. Gilead, Ohio
New Jersey Agricultural Works, Trenton, N.J.
Palmer Bros., Cos Cob, Conn.
Papec Machine Co., Shortsville, N.Y.
J. B. Sedberry, Inc., Utica, N.Y.
Thomas-Albright Co., Goshen, Ind.

Pasteurizing Outfits

Food Machinery Corp., Anderson-Barngrover Div., San Jose, Calif.
Glascote Products, Inc., Cleveland, Ohio
Pfaudler Co., Rochester, N.Y.

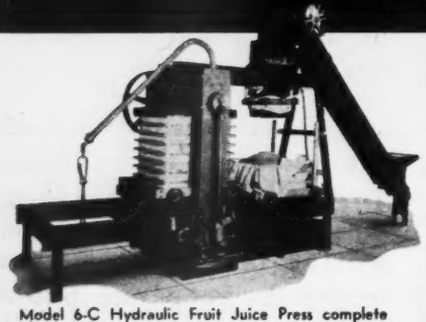
Presses, Fruit

Cutaway Harrow Co., Higganum, Conn.
Enterprise Mfg. Co. of Pa., Philadelphia, Pa.
A. B. Farquhar Co., Ltd., York, Pa.
Food Machinery Corp., Anderson-Barngrover Div., San Jose, Calif.
Hydraulic Press Mfg. Co., Mt. Gilead, Ohio
New Jersey Agricultural Works, Trenton, N.J.
Palmer Bros., Cos Cob, Conn.
Thomas-Albright Co., Goshen, Ind.
Edwin C. Tyson, Flora Dale, Pa.

Racks and Strainers, Fruit Juice

A. B. Farquhar Co., Ltd., York, Pa.
Hydraulic Press Mfg. Co., Mt. Gilead, Ohio
New Jersey Agricultural Works, Trenton, N.J.
Palmer Bros., Cos Cob, Conn.
Thomas-Albright Co., Goshen, Ind.

Meet Your Fruit Juicing Needs with
Mount Gilead HYDRAULIC PRESSES
and CLEAR-FLO Pressure Filters . . .

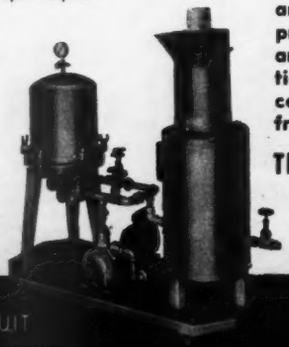


Model 6-C Hydraulic Fruit Juice Press complete with elevator, grater, racks, etc. 1200 gallon daily capacity. Sizes available from 600 to 5000 gallon capacities. Bulletin upon request.

Fruit products are vital foods, so if your fruit processing equipment needs replacement or repair, check your requirements at once. New Mount Gilead presses, equipment and repairs are available where your output is a wartime necessity.

For adequate, modern filtering facilities, the Mount Gilead Clear-Flo Pressure filter surpasses all others for capacity, effectiveness and versatility. Mobility, simplicity of operation and ease of disassembly and cleaning are features that every operator appreciates. Give your juices the clarity and purity of government specifications with Clear-Flo filters. Write for catalog of the complete Mount Gilead fruit juice processing line.

Standard Mount Gilead Clear-Flo Filter complete with filter-aid feeder and rotary pressure pump. Available in sizes from 40 to 400 gallons per hour capacities. Complete filtering information upon request.



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the special
SODIUM BENZOATE
that does not alter taste
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JERSEY CITY, N. J.
Quarter of a Century of Service

Sodium Benzoate

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Dow Chemical Co., Midland, Mich.
Heyden Chemical Corp., New York, N.Y.
Hooker Electro Chem. Co., Niagara Falls, N.Y.
Mallinckrodt Chemical Works, St. Louis, Mo.
Monsanto Chemical Co., St. Louis, Mo.
Seydel Chemical Co., Jersey City, N.J.

BUILDING CONSTRUCTION AND MATERIALS

Roofing and Siding

COMPOSITION

Barret Div., Allied Chemical Dye Corp., New York. N.Y.
Philip Carey Co., Lockland, Ohio.
Celotex Corp., Chicago, Ill.
Certain-Teed Products Corp., Chicago, Ill.
Flintkote Co., Inc., New York, N.Y.
Masonite Corp., Chicago, Ill.
Paraffine Companies, Inc., San Francisco, Calif.
Red Cedar Shingle Bureau, Seattle, Wash.
Ruberoid Co., New York, N.Y.
U. S. Gypsum Co., Chicago, Ill.
Weyerhaeuser Sales Co., St. Paul, Minn.

STEEL

American Rolling Mills Co., Middletown, Ohio
Bethlehem Steel Corp., Bethlehem, Pa.
Carnegie-Illinois Steel Corp., Pittsburgh, Pa.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Pittsburgh Steel Co., Pittsburgh, Pa.
Republic Steel Corp., Cleveland, Ohio
U. S. Steel Corp. of Delaware, Pittsburgh, Pa.
Wheeling Steel Corp., Wheeling, W. Va.

Building Materials

Certain-Teed Products Corp., Chicago, Ill.
Delco-Remy Div., General Motors Corp., Anderson, Ind.
Detroit Steel Products Co., Detroit, Mich.
General Electric Co., Bridgeport, Conn.
Harris Bros. Co., Chicago, Ill.
International Nickel Co., Inc., New York, N.Y.
Johns-Manville Corp., New York, N.Y.
Libbey-Owens-Ford Glass Co., Toledo, Ohio
National Gypsum Co., Buffalo, N. Y.
Pacific Lumber Co., San Francisco, Calif.
Paraffine Companies, Inc., San Francisco, Calif.
Pittsburgh Plate Glass Co., Pittsburgh, Pa.
Portland Cement Association, Chicago, Ill.
Rutland Fire Clay Co., Rutland, Vt.
U.S. Plywood Corp., New York, N.Y.
Upson Co., Lockport, N.Y.
Westinghouse Electric & Mfg. Co., E. Pittsburgh, Pa.
Weyerhaeuser Sales Co., St. Paul, Minn.

Steel Construction

Columbian & Steel Tank Co., Kansas City, Mo.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Pittsburgh Steel Co., Pittsburgh, Pa.
Stran-Steel Div. of Great Lakes Steel Corp., Detroit, Mich.
Truscon Steel Co., Youngstown, Ohio
Youngstown Press Steel Co., Warren, Ohio

Insulation

Armstrong Cork Co., Lancaster, Pa.
Barrett Div. Allied Chemical & Dye Corp., New York, N.Y.
Celotex Corp., Chicago, Ill.
Certain-Teed Products Corp., Chicago, Ill.
Fir-Tex Insulation Board Co., Portland, Ore.
Flintkote Co., New York, N.Y.
Insulite Div. of Minnesota & Ontario Paper Co., Minneapolis, Minn.
Masonite Corp., Chicago, Ill.
Pacific Lumber Co., San Francisco, Calif.
Ruberoid Co., New York, N.Y.
U. S. Gypsum Co., Chicago, Ill.
Universal Zonolite Insulation Co., Chicago, Ill.
Wood Conversion Co., St. Paul, Minn.

Flooring

Armstrong Cork Co., Lancaster, Pa.
Congoleum-Nairn Inc., Kearny, N.J.
Hachmeister-Lind Co., Pittsburgh, Pa.
Johns-Manville Co., New York, N.Y.
Marbleoid Inc., North Bergen, N.J.
Ruberoid Co., New York, N.Y.

Plumbing Fixtures

C. F. Church Mfg. Co., Holyoke, Mass.
Kaustine Co., Inc., Perry, N.Y.
Kohler Co., Kohler, Wis.
Thos. Maddock's Sons, Co., Trenton, N.J.
Standard Sanitary Mfg. Co., Pittsburgh, Pa.
Universal Sanitary Mfg. Co., New Castle, Pa.
Wheeling Sanitary Mfg. Co., Wheeling, W. Va.

Ready Cut Houses

Aladdin Co., Bay City, Mich.
Gordon Van Tine Co., Davenport, Iowa
E. F. Hodgson Co., Boston, Mass.
Texas Prefabricated House & Tent Co., Dallas, Tex.

Paints, Varnishes & Enamels

Aluminum Co. of America, Pittsburgh, Pa.
American Chemical Paint Co., Ambler, Pa.
Cook Paint & Varnish Co., Kansas City, Mo.
DuPont de Nemours & Co., Inc., Wilmington, Del.
Devoe & Raynolds Co., Inc., New York, N.Y.
Eagle-Picher Lead Co., Cincinnati, Ohio
Glidden Co., Cleveland, Ohio
National Lead Co., New York, N.Y.
New Jersey Zinc Co., New York, N.Y.
Pittsburgh Plate Glass Co., Pittsburgh, Pa.
Sherwin-Williams Co., Cleveland, Ohio

"I'm going to buy this $4,000 tractor for $750
... and help Tom lick the tar out of the Axis!
"The way I figure, Joe, it makes sense to look ahead. Take farm machinery. In a few years I'll be needing a lot of new equipment around the place here. You will, too. So I'm asking my money away while I've got it . . . in War Bonds! Then when it's time to buy a new tractor or combine, I'll have the cash to do it.
"What's more important, for every $750 invested now, Uncle Sam will pay me back $1,000 at the end of 10 years. Four dollars for every three dollars!
"And then there's my oldest boy, Tom, Jr. Last I heard he was over in the Pacific somewhere giving those Japs a taste of their own medicine. Well, I want Tom to come back to me. And I intend to see that he gets the best fighting equipment money can buy. If he can carry a gun, the least I can do is provide the price for a few. Especially when I get ½ more than I invest.
"You bet I'm buying War Bonds, Joe . . with every cent I can lay my hands on. How about you?"
"BUT TAXES ARE SO HIGH I CAN'T AFFORD MORE BONDS"
"BUT I MIGHT NEED MONEY CASH BEFORE THE BONDS MATURE"
"WHERE CAN I BUY WAR BONDS?"
"Sure, Joe. Everybody's taxes are higher. But you're still going to need money for new equipment after the war. For instance, your combine depreciates about $100 a season, your grain drill $20, your wagon $12, etc. That's why it makes sense to save that money in War Bonds."
"If you get strapped for money, you can cash in your Series E War Bonds any time after 60 days. Naturally, the longer you hold your Bonds, the more money you'll get back. But you'll never get hard-up when you put in! You've got Uncle Sam's word for that. And his word is good enough for me!"
"Personally, I've got a deal with the bank in town. They buy a Bond for me every month and deduct the cost from my account. You can also buy both Bonds and Stamps at the Post Office, from your mail carrier, or local farm organizations. The important thing is buy 'em, and buy 'em now!"
You Get ½ More Than You Invest
When held 10 years, War Bonds yield 2.9% interest, compounded semi-annually. You get back $4 for every $3!
Posts atbout War Bonds (Series E)
You LOSE Uncle Sam: Upon maturity you get back:
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37.50 50.00
75.00 100.00
375.00 500.00
750.00 1,000.00
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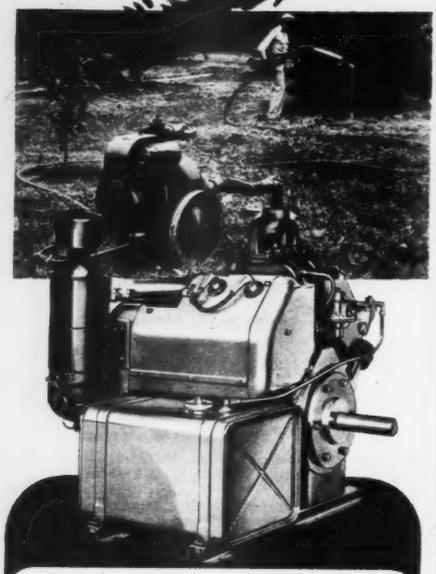

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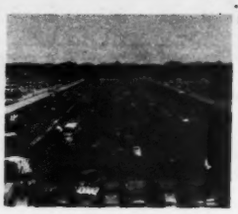

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Purolator Products, Inc., Newark, N.J.
Raybestos Div., Raybestos-Manhattan, Inc., Stamford, Conn.
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Kelly-Springfield Tire Co., Cumberland, Md.
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Pennsylvania Rubber Co., Jeannette, Pa.
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Boston & Maine Railroad, Boston, Mass.
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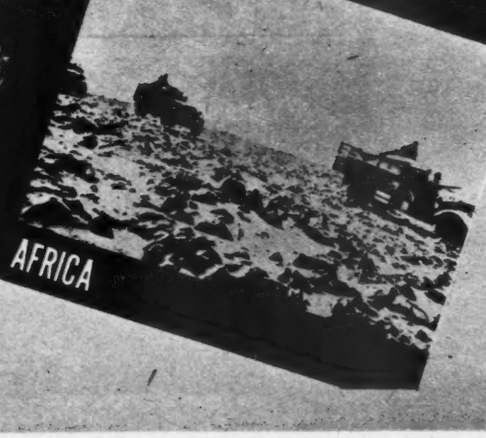

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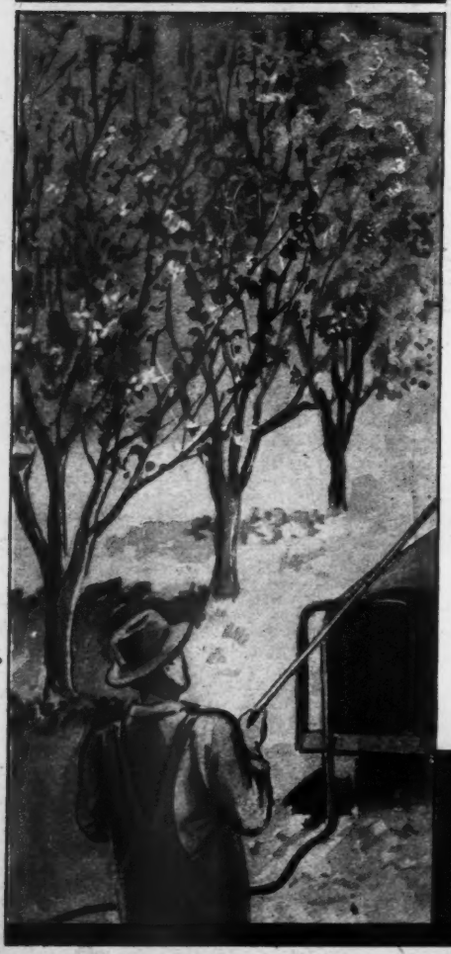

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